

nyhart

GASB 74/75 ACTUARIAL VALUATION

Fiscal Year Ending June 30, 2017

State of Indiana

Nyhart Actuary & Employee Benefits

8415 Allison Pointe Blvd., Ste. 300, Indianapolis, IN 46250
(317) 845-3500 - www.nyhart.com

Table of Contents

	Page
Certification	1
Section A – Executive Summary	
Actuary's Notes	A – 1
Summary of Results	A – 2
Liabilities Breakdown	A – 3
Section B – State Personnel	B – 1 to B – 22
Section C – Legislature	C – 1 to C – 19
Section D – Indiana State Police	D – 1 to D – 19
Section E – Conservation and Excise Police	E – 1 to E – 19
Section F – Appendix	
Comparison of Participant Demographic Information	F – 1
Data Reconciliation by Group	F – 2
Summary of Medical Benefits	F – 3
Section G – Glossary	
Decrements Exhibit	G – 1
Retirement Rates Exhibit	G – 2
Definitions	G – 3



November 29, 2017

**Deanna Oware
State of Indiana
Indiana State Budget Agency
200 West Washington Street, Room 212
Indianapolis, IN 46204**

This report summarizes the GASB actuarial valuation for the State of Indiana 2016/17 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 74 (Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans) and GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

A handwritten signature in black ink that reads "Randy Gomez".

Randy Gomez, FSA, MAAA
Consulting Actuary

A handwritten signature in black ink that reads "Evi Laksana".

Evi Laksana, ASA, MAAA
Valuation Actuary

SECTION A - EXECUTIVE SUMMARY



Actuary's Notes

State of Indiana is required to disclose OPEB liabilities under GASB 74/75 for the current valuation. The prior valuation was disclosed under GASB 45. The following assumptions have been updated in accordance with GASB 74/75.

1. The actuarial cost method has been updated from Projected Unit Credit with linear proration to decrement to Entry Age Normal Level % of Salary. This change has caused an increase in liabilities for all entities.
2. Although all entities are funding their OPEB benefits, the expected rate of return of the Trust is lower than the yield for 20-year tax-exempt general obligation with an average rating of AA/Aa or higher (or equivalent quality on another rating scale), as such the discount rate as of the Measurement Date has been updated to be based on the 20-year tax exempt general obligation municipal bonds yield. The prior full valuation used a discount rate of 4.5% for all entities. The current full valuation uses a discount rate of 2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for all entities. This change has caused an increase in liabilities for all entities. The discount rate will be updated annually to reflect market conditions as of the Measurement Date.

Changes since last year's full valuation, which was for the fiscal year ending June 30, 2016:

1. For Indiana State Police (ISP):
 - a. Employees hired on/after July 1, 2016 are only eligible for retiree health benefits until Medicare eligibility. This change does not generate an immediate reduction to the Total OPEB Liabilities (TOL) but is expected to have a significant impact as more active employees are affected by this change.
 - b. ISP is expected to increase the maximum out-of-pocket for the retiree health plan from \$2,750 (single) / \$5,500 (family) currently to \$4,000 (single) / \$8,000 (family) on January 1, 2018. This change caused a decrease in the ISP TOL.
2. For Conservation and Excise Police (CEP):
 - a. CEP is expected to modify the provisions of the retiree health plan effective on January 1, 2018 as follows:
 - i. Deductible: increased from \$500 (single) / \$1,000 (family) to \$750 (single) / \$1,500 (family).
 - ii. Maximum out-of-pocket: increased from \$2,050 (single) / \$4,100 (family) to \$2,550 (single) / \$5,100 (family).
 - iii. Prescription drug: modified the deductible from \$300 to \$300 (single) / \$900 (family).This change caused a decrease in CEP TOL.
 - b. Incremental spouse cost for Medicare retirees who are covering their spouses is set at 1.6 of the single cost in 2018. This multiplier is set to increase annually until it reaches 2 times the single cost in 2022. This change caused a decrease in CEP TOL.
3. For all groups, trend rates for medical and prescription drug benefits have been reset to an initial rate of 9.00% decreasing by 0.50% annually to an ultimate rate of 4.50%. Dental trend rates have been modified from an initial rate of 4.50% decreasing by 0.25% to 3.50% to a flat 3.00%. This change caused an increase in all entities TOL.



Summary of Results

Presented below is the summary of GASB 74/75 results (for all employee groups) for the fiscal year ending June 30, 2017.

<i>As of June 30, 2017</i>	<i>State Personnel</i>		<i>Legislature</i>		<i>Indiana State Police (ISP)</i>		<i>Conservation and Excise Police (CEP)</i>	
Total OPEB Liability	\$	53,040,129	\$	11,987,469	\$	539,736,385	\$	56,023,950
Actuarial Value of Assets		(44,998,027)		0		(97,322,900)		(15,175,762)
Net OPEB Liability	\$	8,042,102	\$	11,987,469	\$	442,413,485	\$	40,848,188
Funded Ratio		84.8%		0.0%		18.0%		27.1%

<i>For FY 2016/17</i>	<i>State Personnel</i>		<i>Legislature</i>		<i>ISP</i>		<i>CEP</i>	
OPEB Expense	\$	2,965,866	\$	526,111	\$	1,433,766	\$	(3,540,063)
Annual Employer Contribution	\$	4,801,561	\$	554,605	\$	26,871,267	\$	3,717,824

<i>As of June 30, 2017</i>	<i>State Personnel</i>		<i>Legislature</i>		<i>ISP</i>		<i>CEP</i>	
Discount Rate		3.56%		3.56%		3.56%		3.56%
Expected Return on Assets		3.25%		3.25%		3.25%		3.25%

<i>As of June 30, 2017</i>	<i>State Personnel</i>		<i>Legislature</i>		<i>ISP</i>		<i>CEP</i>	
Total Active Participants¹		23,617		112		1,665		262
Total Retiree Participants²		725		38		1,120		191

¹ Only includes employees who have medical / rx coverage. Refer to Summary of Plan Participants section for an accurate breakdown of active employees with and without medical / rx coverage.

² Includes only retired employees and beneficiaries who have medical / rx coverage. Refer to Summary of Plan Participants section for an accurate breakdown of retired employees and beneficiaries with and without medical / rx coverage.



Liabilities Breakdown

Below is a breakdown of total GASB 75 liabilities allocated to past and current service compared to the prior year. The table below also provides a breakdown of the Total OPEB Liability allocated to pre and post Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor’s GASB subsidies.

Present Value of Future Benefits (PVFB)	State Personnel	Legislature	ISP	CEP
Active Employees	\$ 63,450,370	\$ 2,460,086	\$ 660,387,182	\$ 54,823,948
Retired Employees	9,454,540	10,595,214	267,936,444	25,631,913
Total PVFB	\$ 72,904,910	\$ 13,055,300	\$ 928,323,626	\$ 80,455,861

Total OPEB Liability	State Personnel	Legislature	ISP	CEP
Active Pre-Medicare	\$ 43,585,589	\$ 68,479	\$ 103,183,151	\$ 15,337,906
Active Post-Medicare	0	1,323,776	214,922,616	15,054,131
Active Liability	\$ 43,585,589	\$ 1,392,255	\$ 318,105,767	\$ 30,392,037
Retiree Pre-Medicare	\$ 9,454,540	\$ 1,863,296	\$ 31,744,489	\$ 6,787,108
Retiree Post-Medicare	0	8,731,918	236,191,955	18,844,805
Retiree Liability	\$ 9,454,540	\$ 10,595,214	\$ 267,936,444	\$ 25,631,913
Total OPEB Liability	\$ 53,040,129	\$ 11,987,469	\$ 586,042,211	\$ 56,023,950

As of June 30, 2017	State Personnel	Legislature	ISP	CEP
Discount Rate	3.56%	3.56%	3.56%	3.56%

Present Value of Future Benefits (PVFB) is the amount needed as of June 30, 2017, to fully fund the State’s retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

Total OPEB Liability is the portion of PVFB considered to be accrued or earned as of June 30, 2017. This amount is a required disclosure in the Required Supplementary Information section.

SECTION B – STATE PERSONNEL

**Schedule of Changes in Net OPEB Liability and Related Ratios**

OPEB Liability	FY 2016/17
Total OPEB Liability	
Total OPEB liability – beginning of year	\$ 54,776,233
Service cost	2,334,482
Interest	1,535,623
Changes of benefit terms	0
Changes in assumptions	(1,080,698)
Differences between expected and actual experience	(121,052)
Benefit payments	(4,404,459)
Net change in total OPEB liability	\$ (1,736,104)
Total OPEB liability – end of year	\$ 53,040,129
Plan Fiduciary Net Position	
Plan fiduciary net position – beginning of year	\$ 44,726,134
Contributions – employer	4,801,561
Contributions – active employees	0
Net investment income	291,654
Benefit payments	(4,404,459)
Trust administrative expenses	(416,863)
Net change in plan fiduciary net position	\$ 271,893
Plan fiduciary net position – end of year	\$ 44,998,027
Net OPEB Liability – end of year	\$ 8,042,102
Plan fiduciary net position as % of total OPEB liability	84.8%
Covered employee payroll	\$ 1,234,282,761
Net OPEB liability as % of covered payroll	0.7%



Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in the prior GASB 45 actuarial valuations as shown in the Plan Sponsor financial statements.

	<i>FY 2016/17</i>		<i>FY 2015/16</i>		<i>FY 2014/15</i>		<i>FY 2013/14</i>		<i>FY 2012/13</i>	
Actuarially Determined Contribution (ADC)	\$	3,060,429 ³	\$	1,537,527	\$	1,838,675	\$	1,009,935	\$	940,502
Contributions in relation to the ADC ⁴		4,801,561		2,977,166		3,567,257		3,200,158		4,202,964
Contribution deficiency / (excess)	\$	(1,741,132)	\$	(1,439,639)	\$	(1,728,582)	\$	(2,190,223)	\$	(3,262,462)
Covered employee payroll	\$	1,234,282,761	\$	1,148,771,000	\$	1,180,296,000	\$	1,219,424,000	\$	1,208,402,000
Contribution as a % of covered employee payroll		0.4%		0.3%		0.3%		0.3%		0.3%
	<i>FY 2011/12</i>		<i>FY 2010/11</i>		<i>FY 2009/10</i>		<i>FY 2008/09</i>		<i>FY 2007/08</i>	
Actuarially Determined Contribution (ADC)	\$	2,964,232	\$	4,664,253	\$	6,292,153	\$	7,715,915	\$	7,230,786
Contributions in relation to the ADC ⁴		33,849,768		16,922,179		1,913,380		1,796,334		1,635,509
Contribution deficiency / (excess)	\$	(30,885,536)	\$	(12,257,926)	\$	4,378,773	\$	5,919,581	\$	5,595,277
Covered employee payroll	\$	1,166,823,000	\$	N/A	\$	N/A	\$	1,130,900,000	\$	1,130,900,000
Contribution as a % of covered employee payroll		2.9%		N/A		N/A		0.2%		0.1%

³ Refer to the Actuarially Determined Contributions section for the calculation details.

⁴ Includes employer contribution for pay-go cost and (any) pre-funding contributions deposited into the OPEB Trust.



OPEB Expense

<i>OPEB Expense</i>	<i>FY 2016/17</i>
Discount rate as of beginning of fiscal year	2.92%
Discount rate as of end of fiscal year	3.56%
Service cost	\$ 2,334,482
Interest	1,535,623
Changes of benefit terms	0
Projected earnings on OPEB plan investments	(1,453,281)
Reduction for contributions from active employees	0
OPEB plan administrative expenses	416,863
Current period recognition of deferred outflows / (inflows) of resources	
Differences between expected and actual experience	\$ (10,088)
Changes in assumptions	(90,058)
Net difference between projected and actual earnings on OPEB plan investments	232,325
Total current period recognition	\$ 132,179
Total OPEB expense	\$ 2,965,866



Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Difference between projected and actual earnings in OPEB plan investments

The initial amortization period for the first two items noted above is based on the average future service to retirement while the difference between projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the item above.

<i>Differences between expected and actual experience for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (121,052)	12	\$ (10,088)	\$ (110,964)

<i>Changes in assumptions for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (1,080,698)	12	\$ (90,058)	\$ (990,640)

<i>Net difference between projected and actual earnings in OPEB plan investments for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 1,161,627	5	\$ 232,325	\$ 929,302

<i>As of fiscal year ending June 30, 2017</i>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
Differences between expected and actual experience	\$ 0	\$ (110,964)
Changes in assumptions	0	(990,640)
Net difference between projected and actual earnings in OPEB plan investments	929,302	0
Total	\$ 929,302	\$ (1,101,604)



Deferred Outflows / (Inflows) of Resources – Continued

Annual Amortization of Deferred Outflows / (Inflows)

The balances of June 30, 2017 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

<i>FYE</i>	<i>Balance</i>
2018	\$ 132,179
2019	\$ 132,179
2020	\$ 132,179
2021	\$ 132,181
2022	\$ (100,146)
Thereafter	\$ (600,874)

Sensitivity Results

The following presents the net OPEB liability as of June 30, 2017, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.56%.
- The 1% decrease in discount rate would be 2.56%.
- The 1% increase in discount rate would be 4.56%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 12,394,285
Current Discount Rate	\$ 8,042,102
1% Increase	\$ 4,073,855

The following presents the net OPEB liability as of June 30, 2017, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 4.5%.
- The 1% decrease in health care trend rates would assume an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 3.5%.
- The 1% increase in health care trend rates would assume an initial rate of 10.0% decreasing by 0.5% annually to an ultimate rate of 5.5%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 3,193,543
Current Health Care Trend Rates	\$ 8,042,102
1% Increase	\$ 13,704,326

**Asset Information**

Asset Breakdown		FY 2016/17
Assets		
Cash and cash equivalents	\$	578,676
Securities lending cash collateral		0
Total cash	\$	578,676
Receivables		
Contributions	\$	514,800
Accrued interest		87,731
Total receivables	\$	602,531
Investments		
Fixed income	\$	43,947,765
Equities		0
Mutual Funds		0
Other		0
Total investments	\$	43,947,765
Total assets	\$	45,128,972
Liabilities		
Payables		
Investment management fees	\$	0
Benefits		(130,945)
Total liabilities	\$	(130,945)
Net position restricted to OPEB	\$	44,998,027

Asset Reconciliation		FY 2016/17
Additions		
Contributions received		
Employer	\$	4,801,561
Employee		0
Total contributions	\$	4,801,561
Investment income		
Net increase in fair value of investments	\$	291,654
Interests and dividends		0
Investment expense, other than from securities lending		0
Securities lending income		0
Securities lending expense		0
Net investment income	\$	291,654
Total additions	\$	5,093,215
Deductions		
Benefit payments (net of retiree contributions)	\$	(4,404,459)
Administrative expenses		(416,863)
Other		0
Total deductions	\$	(4,821,322)
Net increase in net position	\$	271,893
Net position restricted to OPEB		
Beginning of year		44,726,134
End of year	\$	44,998,027

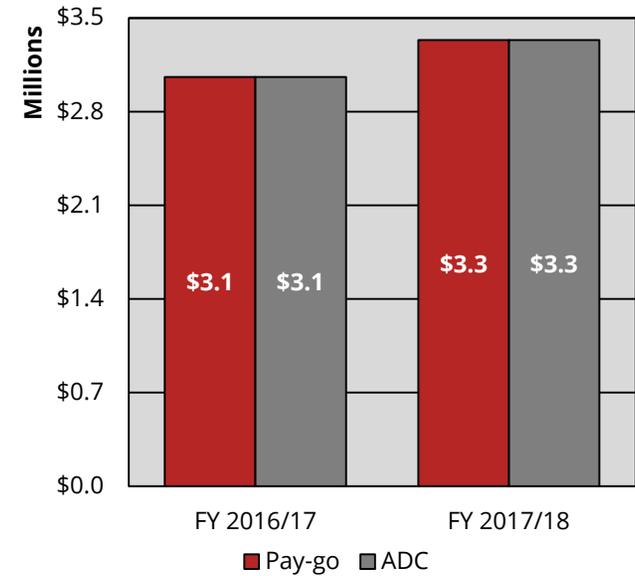


Actuarially Determined Contribution

The Actuarially Determined Contributions calculated below are recommended target contributions and assumes that the Plan Sponsor has the ability to contribute these amounts on an annual basis. The Plan Sponsor has the responsibility to decide how much it should contribute after considering its other needs and the OPEB participants' needs.

	FY 2016/17	FY 2017/18
Discount rate	4.50%	4.50%
Payroll growth factor used for amortization	N/A	N/A
Actuarial cost method	Entry Age Normal Level % of Salary	Entry Age Normal Level % of Salary
Amortization type	Level Dollar	Level Dollar
Amortization period	30 years	29 years
Actuarial accrued liability (AAL) – beginning of year	\$ 48,493,760	\$ 49,299,365
Actuarial value of assets – beginning of year	(44,726,134)	(44,998,027)
Unfunded AAL – beginning of year	\$ 3,767,626	\$ 4,301,338
Normal Cost	\$ 1,676,475	\$ 1,751,916
Amortization of UAAL	221,340	256,906
Total normal cost plus amortization	\$ 1,897,815	\$ 2,008,822
Interest to the end of year	85,402	90,397
Actuarially Determined Contribution – Preliminary	\$ 1,983,217	\$ 2,099,219
Expected benefit payments	3,060,429	3,335,868
Actuarially Determined Contribution – Final⁵	\$ 3,060,429	\$ 3,335,868

Cash vs Accrual Accounting



Actuarially Determined Contribution (ADC) is the target or recommended contribution to a defined benefit OPEB plan, which if paid on an ongoing basis, will provide sufficient resources to fund future costs for services to be earned and liabilities attributed to past services. This is typically higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

⁵ Set to be the greater of the preliminary ADC and expected benefit payments.



Projection of GASB Results

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs if the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

<i>Projection of Total OPEB Liability (TOL)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
TOL as of beginning of year	\$ 54,776,233	\$ 53,040,129
Normal cost as of beginning of year	2,268,249	2,113,477
Exp. benefit payments during the year	(4,404,459)	(3,335,868)
Interest adjustment to end of year	1,601,856	1,904,609
Exp. TOL as of end of year	\$ 54,241,879	\$ 53,722,347
Actuarial Loss/(Gain)	(1,201,750)	TBD
Actual TOL as of end of year	\$ 53,040,129	\$ TBD

<i>Projection of Actuarial Value of Assets (AVA)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
AVA as of beginning of year	\$ 44,726,134	\$ 44,998,027
Exp. employer contributions during the year ⁶	4,404,459	3,335,868
Exp. benefit payments during the year	(4,404,459)	(3,335,868)
Exp. investment income ⁷	1,446,879	1,462,436
Exp. Trust administrative expenses	(416,863)	0
Exp. AVA as of end of year	\$ 45,756,150	\$ 46,460,463
Differences between expected and actual experience	(758,123)	TBD
AVA as of end of year	\$ 44,998,027	\$ TBD

⁶ Employer contribution for 2016/17 is based on actual employer contribution made into the Trust. FY 2017/18 expected employer contribution is based on the final ADC as shown on page B-7.

⁷ Fiscal years 2016/17 and 2017/18 expected investment income are calculated based on a 3.25% asset return.

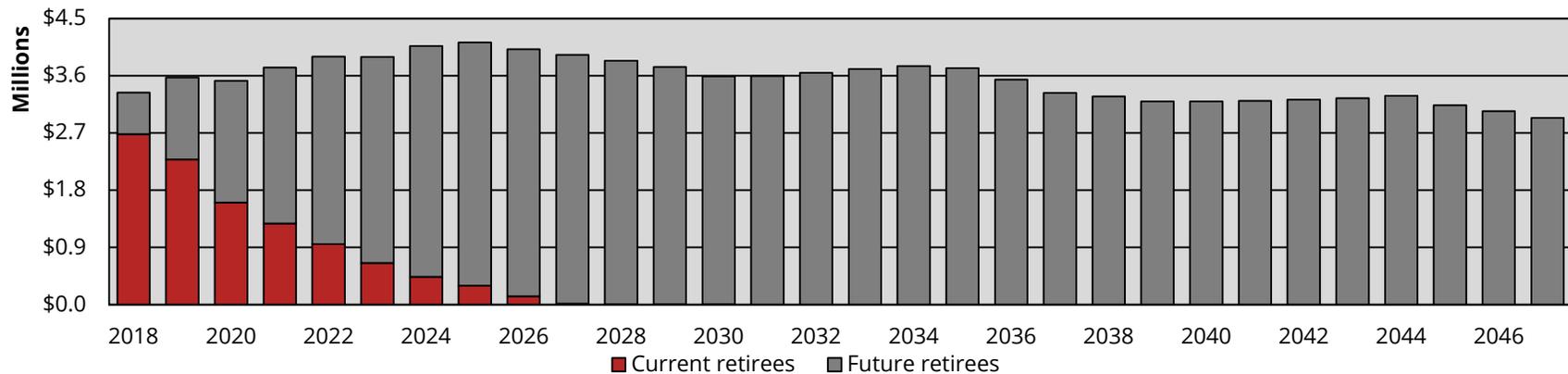


Employer Contribution Cash Flow Projections

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current / future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees ⁸	Total	FYE	Current Retirees	Future Retirees ⁸	Total	FYE	Current Retirees	Future Retirees ⁸	Total
2018	\$ 2,681,932	\$ 653,936	\$ 3,335,868	2028	\$ 6,843	\$ 3,830,736	\$ 3,837,579	2038	\$ 0	\$ 3,275,280	\$ 3,275,280
2019	\$ 2,281,764	\$ 1,287,491	\$ 3,569,255	2029	\$ 7,024	\$ 3,732,636	\$ 3,739,660	2039	\$ 0	\$ 3,193,881	\$ 3,193,881
2020	\$ 1,607,086	\$ 1,912,767	\$ 3,519,853	2030	\$ 7,292	\$ 3,582,208	\$ 3,589,500	2040	\$ 0	\$ 3,196,722	\$ 3,196,722
2021	\$ 1,275,998	\$ 2,452,867	\$ 3,728,865	2031	\$ 110	\$ 3,592,423	\$ 3,592,533	2041	\$ 0	\$ 3,204,269	\$ 3,204,269
2022	\$ 951,724	\$ 2,946,948	\$ 3,898,672	2032	\$ 125	\$ 3,644,341	\$ 3,644,466	2042	\$ 0	\$ 3,225,339	\$ 3,225,339
2023	\$ 653,997	\$ 3,240,721	\$ 3,894,718	2033	\$ 141	\$ 3,704,405	\$ 3,704,546	2043	\$ 0	\$ 3,245,774	\$ 3,245,774
2024	\$ 436,455	\$ 3,629,631	\$ 4,066,086	2034	\$ 0	\$ 3,750,050	\$ 3,750,050	2044	\$ 0	\$ 3,281,751	\$ 3,281,751
2025	\$ 298,298	\$ 3,823,587	\$ 4,121,885	2035	\$ 0	\$ 3,718,184	\$ 3,718,184	2045	\$ 0	\$ 3,134,640	\$ 3,134,640
2026	\$ 133,227	\$ 3,882,682	\$ 4,015,909	2036	\$ 0	\$ 3,540,038	\$ 3,540,038	2046	\$ 0	\$ 3,040,538	\$ 3,040,538
2027	\$ 13,093	\$ 3,915,847	\$ 3,928,940	2037	\$ 0	\$ 3,331,096	\$ 3,331,096	2047	\$ 0	\$ 2,933,830	\$ 2,933,830

Projected Employer Pay-go Cost



⁸ Projections for future retirees do not take into account future new hires.



Discussion of Discount Rates

Under GASB 74, the discount rate used in valuing OPEB liabilities for funded plans as of the Measurement Date must be based on the long-term expected rate of return on OPEB plan investments that are expected to be used to finance future benefit payments to the extent that (a) they are sufficient to pay for the projected benefit payments and (b) the OPEB plan assets are invested using a strategy that will achieve that return. When the OPEB plan investments are insufficient to cover future benefit payments, a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale) must be used.

For the current valuation:

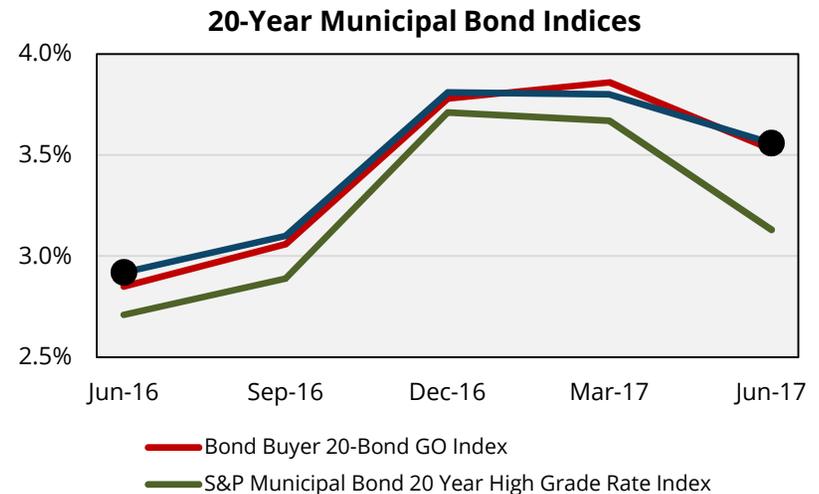
1. The long-term expected rate of return on OPEB plan investment is 3.25%. This was determined using a building block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These expected future real rates of return are then combined to produce the long-term expected rate of return by weighting them based on the target asset allocation percentage and adding in expected inflation (2.25%). The best estimates of arithmetic real rates of return for each major asset class included in the OPEB Plan's target asset allocation as of June 30, 2017 are summarized in the following table.

Asset Class	Target Allocation	L/T Expected Real ROR (JP Morgan)
U.S. Bond	100.00%	1.00%

2. The discount rate used when the OPEB plan investments are insufficient to pay for future benefit payments are selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

Yield as of	July 1, 2016	June 30, 2017
Bond Buyer Go 20-Bond Municipal Bond Index	2.85%	3.53%
S&P Municipal Bond 20-Year High Grade Rate Index	2.71%	3.13%
Fidelity 20-Year Go Municipal Bond Index	2.92%	3.56%
Bond Index Range	2.71% - 2.92%	3.13% - 3.56%
Actual Discount Rate Used	2.92%	3.56%

3. The final equivalent single discount rate used for this year's valuation is 2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 due to the long-term expected rate of return on OPEB plan investment that is lower than the 20-year tax-exempt general obligation municipal bonds yield.





Summary of Plan Participants – Active Employees

<i>Actives with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Traditional PPO	177	42	219	60.6	21.9	\$ 12,414,621
CDHP 1	7,059	8,827	15,886	44.9	9.9	\$ 670,524,833
CDHP 2	475	321	796	52.0	14.3	\$ 38,736,035
CDHP Wellness	2,256	4,460	6,716	46.4	12.9	\$ 351,245,426
Total actives with coverage	9,967	13,650	23,617	45.7	11.0	\$ 1,072,920,914

<i>Actives without coverage</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Total actives without coverage	3,750	45.1	8.3	\$ 161,361,847

For active employees who currently have no coverage, 40% of them are assumed to elect coverage after meeting PERF eligibility requirement. They have been included in the GASB valuation.



Summary of Plan Participants - Active Age-Service Distribution

Age	Years of Service										Total
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	425	797	11								1,233
25 to 29	464	2,083	317	6							2,870
30 to 34	286	1,484	886	253	4						2,913
35 to 39	178	1,153	701	679	148	9					2,868
40 to 44	152	1,014	571	576	395	136	4				2,848
45 to 49	142	849	609	581	411	459	172	9			3,232
50 to 54	116	774	588	592	424	419	451	264	13		3,641
55 to 59	92	673	555	593	433	409	403	398	230	18	3,804
60 to 64	50	422	422	474	312	300	263	202	234	124	2,803
65 to 69	16	108	160	158	99	77	65	61	42	96	882
70 & up	2	30	39	62	29	29	30	12	12	28	273
Total	1,923	9,387	4,859	3,974	2,255	1,838	1,388	946	531	266	27,367



Summary of Plan Participants – Retirees

<i>Retirees with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>
Traditional PPO	9		9	66.9
CDHP 1	474	53	527	61.9
CDHP 2	47	2	49	62.7
CDHP Wellness	119	21	140	62.1
Total retirees with coverage	649	76	725	62.1

Retiree Age Distribution

<i>Age</i>	<i>Retirees</i>
< 45	
45 to 49	
50 to 54	1
55 to 59	130
60 to 64	592
65 to 69	
70 to 74	
75 to 79	1
80 to 84	
85 to 89	1
90 & up	
Total	725



Substantive Plan Provisions

Eligibility

State Employees

State employees are eligible for retiree health care benefits once they attain age 55 with 15 years of service.

Judges

Judges are eligible for retiree health care benefits once they attain age 62 with 8 years of service credit as a participant in the Indiana judges’ retirement fund.

Prosecuting Attorneys

Prosecuting attorneys are eligible for retiree health care benefits once they attain age 62 with 10 years of service credit as a participant in the prosecuting attorneys retirement fund.

All Groups

Retired employee’s eligibility to continue retiree health care coverage ends when the retiree becomes eligible for Medicare coverage (typically at age 65).

Spouse Coverage

Surviving spouse coverage ends at the earlier of Medicare eligibility or 2 years after the death of the retiree.

State Explicit Subsidy

None

Retiree Contributions

Retirees pay the full premium rate as determined by the State.

Medical Benefit

The same benefit options are available to retirees as active employees. All health plans are self-insured. The 2018 monthly premium rates by plan for non-tobacco users are as shown below:

Plans	Single	Family
CDHP 1	\$ 534.04	\$ 1,598.74
CDHP 2	\$ 759.85	\$ 2,207.53
CDHP Wellness	\$ 483.34	\$ 1,469.78
Traditional PPO	\$ 1,301.30	\$ 3,691.61

Dental and Vision Benefits

There is no GASB liability and no implicit subsidy is generated for dental and vision benefits as retirees pay the full cost for these benefits.



Substantive Plan Provisions – Continued

Life Insurance

None

Senate Enrolled Act 501

Purpose

Senate Enrolled Act 501 establishes a retirement medical benefits account for elected officers, appointed officers, and employees of the executive, legislative, and judicial branches of state government to pay for participants’ medical expenses after retirement.

Eligibility

A participant who:

- a. Is eligible for and has applied to receive a normal, unreduced or disability retirement benefit under PERF; or
- b. Has completed at least 10 years of service as an elected or appointed officer; or
- c. Has completed at least 15 years of service with the state for an employee

is entitled to receive a benefit from this account.

Annual State Contributions

The bill requires the state to make annual contributions to the account based on the following schedule:

Employee’s Age	Annual State Contributions
Less than 30	\$ 500
At least 30 but less than 40	\$ 800
At least 40 but less than 50	\$ 1,100
At least 50	\$ 1,400

Bonus Contributions

An additional bonus contribution is to be made upon a participant’s retirement with normal unreduced benefits if the retirement occurs between July 1, 2007 and July 1, 2017, and the retiree on the last day of service has completed at least 15 years of service or 10 years of service as an elected or appointed officer.

The additional bonus contribution amount is one thousand dollars (\$1,000) multiplied by the participant’s years of service (rounded down to the nearest whole year).

Surviving Spouse

Surviving spouse or IRS dependent of a retired participant is allowed to receive the benefit from this account. Amounts credited to a retired participant are forfeited if the participant dies without a surviving spouse or IRS dependent.



Substantive Plan Provisions – Continued

Senate Enrolled Act 501

GASB 74/75 Impact

The Senate Enrolled Act 501 plan is considered a defined contribution individual account for GASB 43 and 45 purposes and has no unfunded liabilities. The employer subsidy is defined in terms of an annual contribution to an individual account. Plan assets are maintained in a Trust Fund. All benefits and expenses in administering the Plan will be paid from the Fund. Money in the Fund may not be transferred, assigned, or otherwise removed from the Fund by the state board of finance, the Agency or any other state agency, and does not revert to the state general fund at the end of any state fiscal year.

The presence of this individual-account is expected to increase the percentage of future retirees electing to continue health coverage under the State plan. As a result, the health coverage election rate assumption was increased to 40% (from historically lower level) for retirements occurring after employees have met the minimum eligibility to use his/her individual account.

The Retirement Medical Benefits Account Trust Fund consists of cigarette tax revenues deposited in the fund under IC 6-7-1-28.1(7) and other appropriations, revenues, or transfers to the trust fund under IC 4-12-1. Beginning on July 1, 2012, these cigarette tax revenues are temporarily redirected to the General Fund per HEA 1001 (2011) in order to recover prior General Fund overpayments to the plan. Beginning on July 1, 2014, cigarette tax revenues will once again be deposited directly to the trust fund. The plan is 105% funded as of June 30, 2017, and is projected to remain more than 100% funded. The plan benefits satisfy the condition of being a defined contribution OPEB benefit and by definition, there is no unfunded liability.

For the fiscal year ending June 30, 2017, the annual required contribution to the plan was \$44.9 million. This required contribution was covered in full by a combination of (1) \$17.3 million contributed by state agencies that are funded by federal or dedicated funds, (2) \$566 thousand from quasi agencies, and (3) an accumulated General Fund balance held by the Trust.



Actuarial Assumptions and Methods

Measurement Date	June 30, 2017										
Actuarial Valuation Date	June 30, 2017 with no adjustments to get to the June 30, 2017 measurement date. Liabilities as of July 1, 2016 are based on an actuarial valuation date of July 1, 2016.										
Discount Rate	2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for accounting disclosure purposes; refer to the Discussion of Discount Rates section for more information on selection of the discount rate. 4.50% for calculating Actuarially Determined Contribution										
Inflation Rate	2.25%										
Cost Method	Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where: <ul style="list-style-type: none"> • service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant’s benefit at retirement; and • annual Service Cost is a constant percentage of the participant’s salary that is assumed to increase according to the Payroll Growth. 										
Salary Scale	2.25% for general wage inflation plus the following merit and productivity increases which are based on the assumption used in the Indiana Public Retirement System (INPRS) actuarial valuation as of June 30, 2016. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Age</th> <th style="text-align: center;">General</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">2.00%</td> </tr> <tr> <td style="text-align: center;">30</td> <td style="text-align: center;">2.00%</td> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">1.50%</td> </tr> <tr> <td style="text-align: center;">50</td> <td style="text-align: center;">1.00%</td> </tr> </tbody> </table>	Age	General	20	2.00%	30	2.00%	40	1.50%	50	1.00%
Age	General										
20	2.00%										
30	2.00%										
40	1.50%										
50	1.00%										
Census Data	Census data was provided by the State and it was collected as of June 30, 2017. We have reviewed it for reasonableness and no material modifications were made to the census data.										
Data Assumption	The State has separate rates for tobacco and non-tobacco users, however these rates are not enforced for retired users. All retirees contribute the non-tobacco rates.										



Actuarial Assumptions and Methods – Continued

Contribution Funding Policy

The State contributes at least the Actuarially Determined Contribution annually.

Mortality

Pre and post-retirement mortality rates are based on SS-2012 Employee and Annuitant Mortality Table fully generational using SSA scale

Disability

None expected

Withdrawal Rate

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health care coverage.

Annual withdrawal rates for judges follow the Public Employees Retirement Fund (PERF), Prosecuting Attorneys' Retirement Fund (PARF), and Judges' Retirement System as of June 30, 2016. Sample rates are as shown below:

State Personnel – Male

Age	0 YOS	2 YOS	5 YOS	7 YOS	9 YOS	10+ YOS
20	23%	23%	17%	12%	7%	7%
30	22%	19%	13%	12%	7%	7%
40	17%	14%	10%	9%	5%	5%
50	14%	9%	9%	7%	4%	4%
60	13%	7%	7%	7%	4%	4%

State Personnel – Female

Age	0 YOS	2 YOS	5 YOS	7 YOS	9 YOS	10+ YOS
20	23%	23%	17%	12%	8%	8%
30	21%	21%	14%	12%	8%	8%
40	18%	16%	12%	9%	8%	6%
50	16%	15%	9%	9%	6%	6%
60	16%	11%	9%	9%	6%	6%

Judges

Age	Rates
All ages	3%

Attorney

Age	Rates
All ages	10%



Actuarial Assumptions and Methods – Continued

Retirement Rate

Annual retirement rates follow the PERF, PARF, and Judges’ Retirement System rates as of June 30, 2016. Sample rates are as shown below:

State Personnel

Age	<15	15 YOS	25 YOS	27 YOS	29 YOS	30+ YOS
50	0%	4%	4%	4%	4%	4%
55	0%	5%	5%	5%	5%	14%
60	0%	12%	12%	12%	12%	12%
62	0%	22%	22%	22%	22%	22%
65	30%	30%	30%	30%	30%	30%
67+	100%	100%	100%	100%	100%	100%

Judges

Age	<22 YOS	22+ YOS
55 – 61	N/A	70%
62	25%	70%
63	15%	70%
64	10%	70%
65	50%	70%
66 – 74	30%	70%
75+	100%	100%

Attorneys

Age	<22 YOS	22+ YOS
55 – 61	0%	70%
62	20%	70%
63	20%	70%
64	20%	70%
65+	100%	100%



Actuarial Assumptions and Methods – Continued

Per Capita Costs

Annual per capita costs are based on claims and enrollment data for the 24-month period ending May 31, 2017 projected to 2017/18 plan year and includes administrative expenses effective on January 1, 2018. The per capita costs were actuarially increased to a retiree-basis using health index factors and enrollment by plan. The costs are assumed to increase with health care trend rates.

Age	Trad PPO	CDHP 1	CDHP 2	CDHP Wellness
<55	\$ 16,700	\$ 6,800	\$ 13,700	\$ 7,200
55 – 59	\$ 20,000	\$ 8,100	\$ 16,500	\$ 8,700
60 – 64	\$ 24,800	\$ 10,100	\$ 20,500	\$ 10,800

The per capita costs represent the cost of coverage for a retiree-only population. Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

There are no GASB liabilities for dental and vision benefits as retirees pay the full cost of coverage.

Health Care Trend Rates

FYE	Medical/Rx	FYE	Medical/Rx
2018	9.0%	2023	6.5%
2019	8.5%	2024	6.0%
2020	8.0%	2025	5.5%
2021	7.5%	2026	5.0%
2022	7.0%	2027+	4.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment. The ultimate trend rate was selected based on historical medical CPI information.

Contribution Trend Rates

Retiree contributions are assumed to increase with Health Care Trend Rates.

Spousal Coverage

70% of male and 55% of female employees are assumed to be married upon retirement. Husbands are assumed to be three years older than wives.

Spousal coverage for current retirees is based on actual data.



Actuarial Assumptions and Methods – Continued

Health Care Coverage Election Rate

Active Employees

Actives with Current Health Coverage

15% of employees are assumed to elect coverage at retirement. Once the employees have met the PERF eligibility for normal, unreduced or a disability pension, the election rate increases to 40% due to the presence of the Senate Enrolled Act 501 account balance.

PERF eligibility requirement is the earlier of:

- a. Age 55 with 85 points
- b. Age 60 with 15 years of service
- c. Age 65 with 10 years of service

Actives without Current Health Coverage

40% of employees are assumed to elect coverage at retirement after meeting the PERF retirement eligibility.

Inactive Employees

Based on actual data

Explicit Subsidy

The difference between (a) the premium rate approved by the State and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a retiree enrolled in CDHP 1 plan with non-tobacco use incentive.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 534.04	\$ 534.04	\$ 0.00
Spouse	\$ 1,064.70	\$ 1,064.70	\$ 0.00



Actuarial Assumptions and Methods – Continued

Implicit Age Subsidy

The difference between (a) the per capita cost as determined by Nyhart and (b) the premium rate approved by the State. Below is an example of the monthly implicit subsidies for a retiree age 60 enrolled in CDHP 1 plan with non-tobacco incentive.

	Per Capita Cost	Premium Rate*	Implicit Age Subsidy
	A	B	C = A - B
Retiree	\$ 841.67	\$ 534.04	\$ 307.63
Spouse	\$ 841.67	\$ 841.67	\$ 0.00

All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

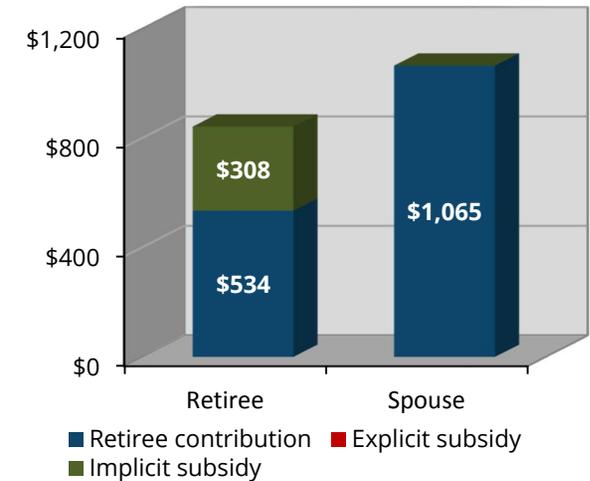
* Spouse premium rate has been limited to the per capita cost.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 74/75 monthly total cost for a retiree age 60 and his spouse of the same age enrolled in CDHP 1 plan with non-tobacco incentive.

	Retiree		Spouse	
Retiree contribution	\$	534.04	\$	1,064.70
Explicit subsidy	\$	0.00	\$	0.00
Implicit subsidy	\$	307.63	\$	0.00
Total monthly cost	\$	841.67	\$	1,064.70

GASB Subsidy Breakdown



SECTION C - LEGISLATURE

**Schedule of Changes in Net OPEB Liability and Related Ratios**

OPEB Liability	FY 2016/17
Total OPEB Liability	
Total OPEB liability – beginning of year	\$ 11,855,691
Service cost	165,068
Interest	338,147
Changes of benefit terms	0
Changes in assumptions	(680,620)
Differences between expected and actual experience	863,788
Benefit payments	(554,605)
Net change in total OPEB liability	\$ 131,778
Total OPEB liability – end of year	\$ 11,987,469
Plan Fiduciary Net Position	
Plan fiduciary net position – beginning of year	\$ 0
Contributions – employer	554,605
Contributions – active employees	0
Net investment income	0
Benefit payments	-554,605
Trust administrative expenses	0
Net change in plan fiduciary net position	\$ 0
Plan fiduciary net position – end of year	\$ 0
Net OPEB Liability – end of year	\$ 11,987,469
Plan fiduciary net position as % of total OPEB liability	0.0%
Covered employee payroll	\$ N/A
Net OPEB liability as % of covered payroll	N/A



OPEB Expense

<i>OPEB Expense</i>	<i>FY 2016/17</i>
Discount rate as of beginning of fiscal year	2.92%
Discount rate as of end of fiscal year	3.56%
Service cost	\$ 165,068
Interest	338,147
Changes of benefit terms	0
Projected earnings on OPEB plan investments	0
Reduction for contributions from active employees	0
OPEB plan administrative expenses	0
Current period recognition of deferred outflows / (inflows) of resources	
Differences between expected and actual experience	\$ 107,974
Changes in assumptions	(85,078)
Net difference between projected and actual earnings on OPEB plan investments	0
Total current period recognition	\$ 22,896
Total OPEB expense	\$ 526,111



Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Difference between projected and actual earnings in OPEB plan investments

The initial amortization period for the first two items noted above is based on the average future service to retirement while the difference between projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the item above.

<i>Differences between expected and actual experience for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 863,788	8	\$ 107,974	\$ 755,814

<i>Changes in assumptions for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (680,620)	8	\$ (85,078)	\$ (595,542)

<i>Net difference between projected and actual earnings in OPEB plan investments for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 0	5	\$ 0	\$ 0

<i>As of fiscal year ending June 30, 2017</i>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
Differences between expected and actual experience	\$ 755,814	\$ 0
Changes in assumptions	0	(595,542)
Net difference between projected and actual earnings in OPEB plan investments	N/A	N/A
Total	\$ 755,814	\$ (595,542)



Deferred Outflows / (Inflows) of Resources – Continued

Annual Amortization of Deferred Outflows / (Inflows)

The balances of June 30, 2017 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

<i>FYE</i>	<i>Balance</i>
2018	\$ 22,896
2019	\$ 22,896
2020	\$ 22,896
2021	\$ 22,896
2022	\$ 22,896
Thereafter	\$ 45,792

Sensitivity Results

The following presents the net OPEB liability as of June 30, 2017 calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.56%.
- The 1% decrease in discount rate would be 2.56%.
- The 1% increase in discount rate would be 4.56%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 13,658,516
Current Discount Rate	\$ 11,987,469
1% Increase	\$ 10,626,040

The following presents the net OPEB liability as of June 30, 2017, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 4.5%.
- The 1% decrease in health care trend rates would assume an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 3.5%.
- The 1% increase in health care trend rates would assume an initial rate of 10.0% decreasing by 0.5% annually to an ultimate rate of 5.5%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 10,664,294
Current Health Care Trend Rates	\$ 11,987,469
1% Increase	\$ 13,581,330



Projection of GASB Results

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs if the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

Projection of Total OPEB Liability (TOL)	FY 2016/17	FY 2017/18
TOL as of beginning of year	\$ 11,855,691	\$ 11,987,469
Normal cost as of beginning of year	160,385	120,023
Exp. benefit payments during the year	(554,605)	(620,280)
Interest adjustment to end of year	342,830	420,082
Exp. TOL as of end of year	\$ 11,804,301	\$ 11,907,294
Actuarial Loss/(Gain)	183,168	TBD
Actual TOL as of end of year	\$ 11,987,469	\$ TBD

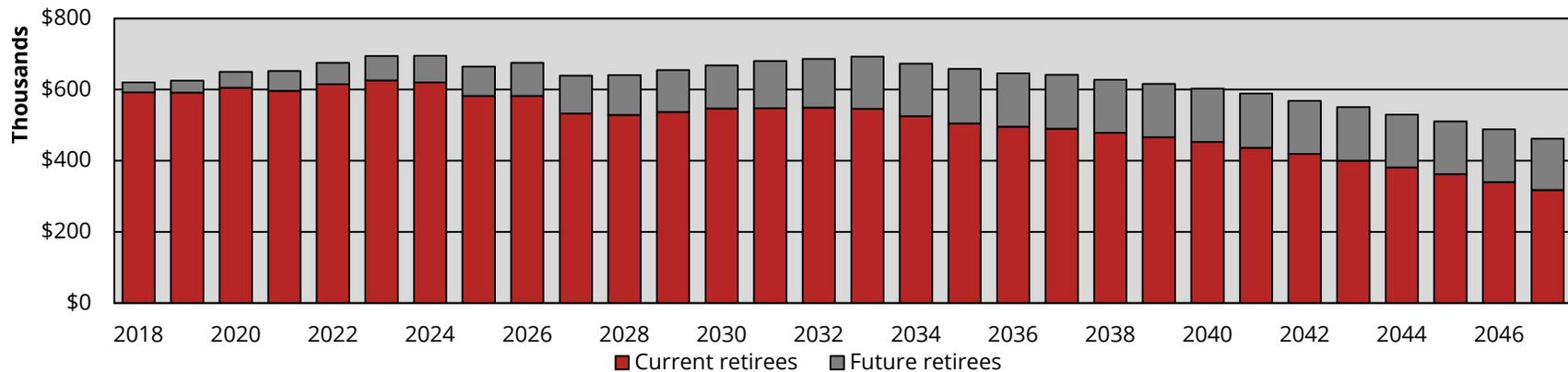


Employer Contribution Cash Flow Projections

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current / future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees ⁹	Total	FYE	Current Retirees	Future Retirees ⁹	Total	FYE	Current Retirees	Future Retirees ⁹	Total
2018	\$ 592,116	\$ 28,164	\$ 620,280	2028	\$ 528,429	\$ 112,382	\$ 640,811	2038	\$ 478,573	\$ 148,803	\$ 627,376
2019	\$ 591,398	\$ 33,599	\$ 624,997	2029	\$ 536,947	\$ 117,659	\$ 654,606	2039	\$ 466,199	\$ 149,658	\$ 615,857
2020	\$ 605,355	\$ 44,037	\$ 649,392	2030	\$ 546,701	\$ 121,336	\$ 668,037	2040	\$ 452,628	\$ 150,175	\$ 602,803
2021	\$ 596,306	\$ 55,830	\$ 652,136	2031	\$ 547,466	\$ 132,612	\$ 680,078	2041	\$ 436,305	\$ 152,113	\$ 588,418
2022	\$ 614,703	\$ 60,162	\$ 674,865	2032	\$ 549,192	\$ 136,565	\$ 685,757	2042	\$ 418,669	\$ 149,037	\$ 567,706
2023	\$ 625,887	\$ 68,359	\$ 694,246	2033	\$ 546,248	\$ 146,395	\$ 692,643	2043	\$ 399,771	\$ 150,825	\$ 550,596
2024	\$ 620,002	\$ 75,068	\$ 695,070	2034	\$ 525,224	\$ 147,698	\$ 672,922	2044	\$ 381,339	\$ 148,382	\$ 529,721
2025	\$ 582,091	\$ 82,074	\$ 664,165	2035	\$ 504,929	\$ 153,395	\$ 658,324	2045	\$ 361,949	\$ 148,129	\$ 510,078
2026	\$ 581,705	\$ 93,747	\$ 675,452	2036	\$ 495,580	\$ 150,207	\$ 645,787	2046	\$ 339,954	\$ 147,926	\$ 487,880
2027	\$ 533,061	\$ 105,962	\$ 639,023	2037	\$ 489,916	\$ 151,586	\$ 641,502	2047	\$ 317,224	\$ 144,439	\$ 461,663

Projected Employer Pay-go Cost



⁹ Projections for future retirees do not take into account future new hires.

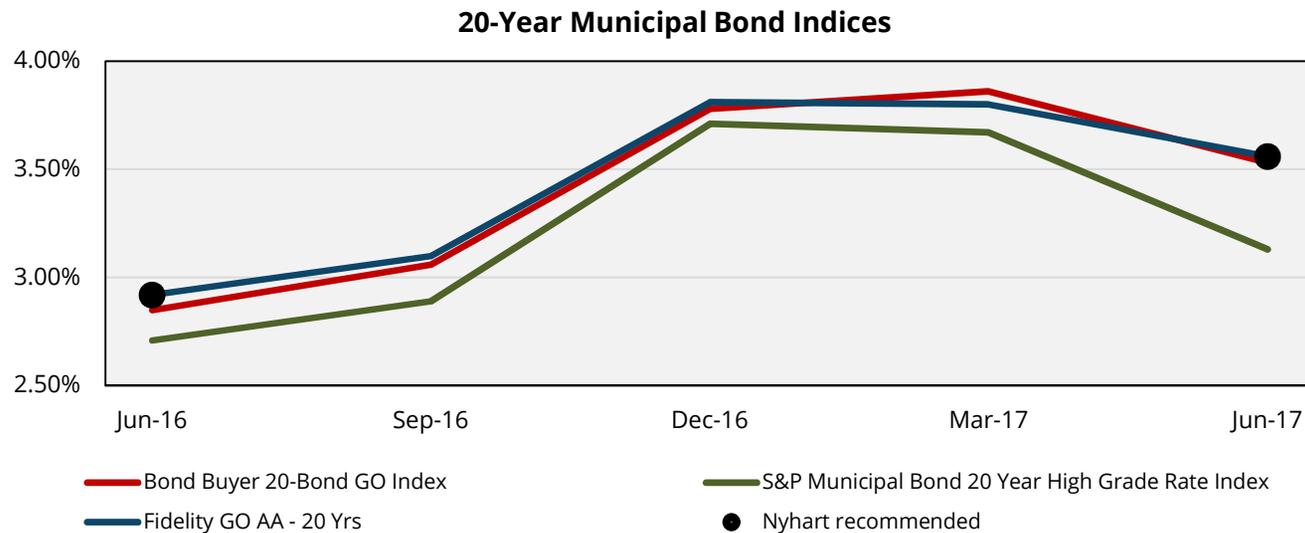


Discussion of Discount Rates

Under GASB 75, the discount rate used in valuing OPEB liabilities for unfunded plans as of the Measurement Date must be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale).

For the current valuation, the discount rate was selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

	Bond Buyer Go 20-Bond Municipal Bond Index	S&P Municipal Bond 20-Year High Grade Rate Index	Fidelity 20-Year Go Municipal Bond Index	Nyhart Range	Actual Discount Rate Used
Yield as of July 1, 2016	2.85%	2.71%	2.92%	2.71% - 2.92%	2.92%
Yield as of June 30, 2017	3.53%	3.13%	3.56%	3.13% - 3.56%	3.56%





Summary of Plan Participants – Active Employees

<i>Actives with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
CDHP 1	15	52	67	54.8	8.7	\$ N/A
CDHP 2		1	1	58.3	0.6	\$ N/A
CDHP Wellness		4	4	47.2	5.7	\$ N/A
ISP Optional	11	29	40	64.1	13.0	\$ N/A
Total actives with coverage	26	86	112	57.9	10.0	\$ N/A

<i>Actives without coverage</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Total actives without coverage	37	57.7	10.9	\$ N/A

For active employees who currently have no coverage, 40% of them are assumed to elect coverage after meeting PERF eligibility requirement. They have been included in the GASB valuation.



Summary of Plan Participants - Active Age-Service Distribution

Age	Years of Service										Total
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25											0
25 to 29											0
30 to 34	1	3	1								5
35 to 39	2	2									4
40 to 44	4	5	3	1							13
45 to 49	3	6	6	2	1						18
50 to 54	4	6	2	3	3						18
55 to 59	4	9	3	3		1	2	1			23
60 to 64	2	5	5	1	3	5					21
65 to 69	2	3	6	4	2	4	1	2	1		25
70 & up		3	4	3	1	3	4	2		1	21
Total	22	42	30	17	10	13	7	5	1	1	148



Summary of Plan Participants – Retirees

<i>Retirees with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>
Traditional PPO	9	15	24	74.9
CDHP 1		3	3	57.1
CDHP 2		2	2	63.0
ISP Optional	1	8	9	72.3
Total retirees with coverage	10	28	38	72.3

In addition to the above retirees, there are two retirees who don't have medical / prescription drug benefit but both of them are receiving subsidized dental and vision coverage. They have been included in the GASB valuation.

Retiree Age Distribution

<i>Age</i>	<i>Retirees</i>
< 45	
45 to 49	
50 to 54	
55 to 59	5
60 to 64	4
65 to 69	8
70 to 74	6
75 to 79	5
80 to 84	6
85 to 89	4
90 & up	
Total	38



Substantive Plan Provisions

Eligibility

Legislators are eligible for retiree health care coverage temporary to age 65 once they have 8 years of service (or 4 sessions). Current retired legislators are eligible for retiree health care coverage for lifetime.

Spouse Coverage

For future retirees, surviving spouse coverage continues after the death of the retiree until the spouse reaches age 65. Surviving spouse coverage continues for life after the death of the retiree for current retirees.

State Explicit Subsidy

The State contributes various percentages of the premium rates for grandfathered current retirees. There is no State explicit subsidy for future retirees.

Retiree Contributions

Retirees pay the full cost of the retiree health care coverage. A limited group of grandfathered retirees receive explicitly subsidized health coverage. Any participants currently enrolled in the Indiana State Police (ISP) plans will receive the same retiree health benefits as a regular ISP retiree.

Medical Benefit

The same benefit options are available to retirees as active employees. All health plans are self-insured. The 2018 monthly premium rates by plan for non-tobacco users are as shown below (for those enrolled in State plans only):

Plans	Single	Family
CDHP 1	\$ 534.04	\$ 1,598.74
CDHP 2	\$ 759.85	\$ 2,207.53
CDHP Wellness	\$ 483.34	\$ 1,469.78
Traditional PPO	\$ 1,301.30	\$ 3,691.61

Dental and Vision Benefits

There is no GASB liability generated for dental and vision benefits for future retirees as they pay the full cost for these benefits. Grandfathered retirees receive free dental benefits and subsidized vision benefits. The 2018 monthly premium rates for dental and vision benefits are as shown below:

Plans	Single	Family
Dental	\$ 25.35	\$ 66.56
Vision	\$ 3.55	\$ 9.01



Substantive Plan Provisions – Continued

Senate Enrolled Act 501

Purpose

Senate Enrolled Act 501 establishes a retirement medical benefits account for elected officers, appointed officers, and employees of the executive, legislative, and judicial branches of state government to pay for participants’ medical expenses after retirement.

Eligibility

A participant who:

- a. Is eligible for and has applied to receive a normal, unreduced or disability retirement benefit under PERF; or
- b. Has completed at least 10 years of service as an elected or appointed officer; or
- c. Has completed at least 15 years of service with the state for an employee

is entitled to receive a benefit from this account.

Annual State Contributions

The bill requires the state to make annual contributions to the account based on the following schedule:

Employee’s Age	Annual State Contributions
Less than 30	\$ 500
At least 30 but less than 40	\$ 800
At least 40 but less than 50	\$ 1,100
At least 50	\$ 1,400

Bonus Contributions

An additional bonus contribution is to be made upon a participant’s retirement with normal unreduced benefits if the retirement occurs between July 1, 2007 and July 1, 2017, and the retiree on the last day of service has completed at least 15 years of service or 10 years of service as an elected or appointed officer.

The additional bonus contribution amount is one thousand dollars (\$1,000) multiplied by the participant’s years of service (rounded down to the nearest whole year).

Surviving Spouse

Surviving spouse or IRS dependent of a retired participant is allowed to receive the benefit from this account. Amounts credited to a retired participant are forfeited if the participant dies without a surviving spouse or IRS dependent.



Substantive Plan Provisions – Continued

Senate Enrolled Act 501

GASB 74/75 Impact

The Senate Enrolled Act 501 plan is considered a defined contribution individual account for GASB 43 and 45 purposes and has no unfunded liabilities. The employer subsidy is defined in terms of an annual contribution to an individual account. Plan assets are maintained in a Trust Fund. All benefits and expenses in administering the Plan will be paid from the Fund. Money in the Fund may not be transferred, assigned, or otherwise removed from the Fund by the state board of finance, the Agency or any other state agency, and does not revert to the state general fund at the end of any state fiscal year.

The presence of this individual-account is expected to increase the percentage of future retirees electing to continue health coverage under the State plan. As a result, the health coverage election rate assumption was increased to 40% (from historically lower level) for retirements occurring after employees have met the minimum eligibility to use his/her individual account.

The Retirement Medical Benefits Account Trust Fund consists of cigarette tax revenues deposited in the fund under IC 6-7-1-28.1(7) and other appropriations, revenues, or transfers to the trust fund under IC 4-12-1. Beginning on July 1, 2012, these cigarette tax revenues are temporarily redirected to the General Fund per HEA 1001 (2011) in order to recover prior General Fund overpayments to the plan. Beginning on July 1, 2014, cigarette tax revenues will once again be deposited directly to the trust fund. The plan is 105% funded as of June 30, 2017, and is projected to remain more than 100% funded. The plan benefits satisfy the condition of being a defined contribution OPEB benefit and by definition, there is no unfunded liability.

For the fiscal year ending June 30, 2017, the annual required contribution to the plan was \$44.9 million. This required contribution was covered in full by a combination of (1) \$17.3 million contributed by state agencies that are funded by federal or dedicated funds, (2) \$566 thousand from quasi agencies, and (3) an accumulated General Fund balance held by the Trust.



Actuarial Assumptions and Methods

Measurement Date	June 30, 2017										
Actuarial Valuation Date	June 30, 2017 with no adjustments to get to the June 30, 2017 measurement date. Liabilities as of July 1, 2016 are based on an actuarial valuation date of July 1, 2016.										
Discount Rate	2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for accounting disclosure purposes; refer to the Discussion of Discount Rates section for more information on selection of the discount rate.										
Inflation Rate	2.25%										
Cost Method	<p>Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where:</p> <ul style="list-style-type: none"> • service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant’s benefit at retirement; and • annual Service Cost is a constant percentage of the participant’s salary that is assumed to increase according to the Payroll Growth. 										
Salary Scale	2.25% for general wage inflation plus the following merit and productivity increases which are based on the assumption used in the Indiana Public Retirement System (INPRS) actuarial valuation as of June 30, 2016.										
	<table border="1"> <thead> <tr> <th>Age</th> <th>General</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>2.00%</td> </tr> <tr> <td>30</td> <td>2.00%</td> </tr> <tr> <td>40</td> <td>1.50%</td> </tr> <tr> <td>50</td> <td>1.00%</td> </tr> </tbody> </table>	Age	General	20	2.00%	30	2.00%	40	1.50%	50	1.00%
Age	General										
20	2.00%										
30	2.00%										
40	1.50%										
50	1.00%										
Census Data	Census data for was provided by the State and it was collected as of June 30, 2017. We have reviewed it for reasonableness and no material modifications were made to the census data.										
Data Assumption	The State has separate rates for tobacco and non-tobacco users, however these rates are not enforced for retired users. All retirees contribute the non-tobacco rates.										



Actuarial Assumptions and Methods – Continued

Contribution Funding Policy

Pay-as-you-go cash basis

Mortality

Pre and post-retirement mortality rates are based on SS-2012 Employee and Annuitant Mortality Table fully generational using SSA scale

Withdrawal Rate

None

Disability

None

Retirement Rate

Annual retirement rates by group are as shown below.

YOS	House	Senate
<6	0%	0%
6	0%	5%
8	10%	5%
12	0%	20%
14	10%	0%
16	20%	20%
20	0%	25%
22	10%	0%
24	20%	10%
28	0%	10%
30	10%	0%
32	100%	100%



Actuarial Assumptions and Methods – Continued

Health Care Coverage Election Rate

Active Employees

Actives with Current Health Coverage

15% of employees are assumed to elect coverage at retirement. Once the employees have met the PERF eligibility for normal, unreduced or a disability pension, the election rate increases to 40% due to the presence of the Senate Enrolled Act 501 account balance.

PERF eligibility requirement is the earlier of:

- a. Age 55 with 85 points
- b. Age 60 with 15 years of service
- c. Age 65 with 10 years of service

Actives without Current Health Coverage

40% of employees are assumed to elect coverage at retirement after meeting the PERF retirement eligibility.

Inactive Employees

Based on actual data.

Spousal Coverage

100% of employees are assumed to be married upon retirement. Husbands are assumed to be three years older than wives.

Spousal coverage for current retirees is based on actual data.



Actuarial Assumptions and Methods – Continued

Per Capita Costs

For those enrolled in the State plans, annual per capita costs are based on claims and enrollment data for the 24-month period ending May 31, 2017 projected to 2017/18 plan year that includes administrative expenses effective on January 1, 2018. For those enrolled in the ISP plan, annual per capita costs are based on claims and enrollment data for the 23-month period ending May 31, 2017 (excluding July 2016 which was not available) projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018. The per capita costs were actuarially increased to a retiree-basis using health index factors and enrollment by plan. The costs are assumed to increase with health care trend rates.

Age	Trad PPO	CDHP 1	CDHP 2
50 – 54	\$ 16,700	\$ 6,800	\$ 13,700
55 – 59	\$ 20,000	\$ 8,100	\$ 16,500
60 – 64	\$ 24,800	\$ 10,100	\$ 20,500
65 – 69	\$ 7,100	\$ 2,900	\$ 5,800
70 – 74	\$ 8,400	\$ 3,400	\$ 6,900
75+	\$ 9,700	\$ 3,900	\$ 8,000

Age	CDHP Wellness	ISP*
50 – 54	\$ 7,200	\$ 8,694
55 – 59	\$ 8,700	\$ 10,394
60 – 64	\$ 10,800	\$ 12,694
65 – 69	\$ 3,100	\$ 4,094
70 – 74	\$ 3,700	\$ 4,794
75+	\$ 4,200	\$ 5,394

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

* ISP per capita costs above include dental and vision costs.



Actuarial Assumptions and Methods – Continued

Health Care Trend Rates

FYE	Medical / Rx
2018	9.0%
2019	8.5%
2020	8.0%
2021	7.5%
2022	7.0%
2023	6.5%
2024	6.0%
2025	5.5%
2026	5.0%
2027+	4.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Dental and vision costs for those enrolled in the ISP plan are assumed to increase by 3.0% in the future.

Retiree Contributions

Retiree contributions for medical and prescription drugs are assumed to increase with Health Care Trend Rates.

Explicit Subsidy

The difference between (a) the premium rate approved by the State and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a retiree enrolled in CDHP 1 plan with non-tobacco use incentive.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 534.04	\$ 534.04	\$ 0.00
Spouse	\$ 1,064.70	\$ 1,064.70	\$ 0.00



Actuarial Assumptions and Methods – Continued

Implicit Age Subsidy

The difference between (a) the per capita cost as determined by Nyhart and (b) the premium rate approved by the State. Below is an example of the monthly implicit subsidies for a retiree age 60 enrolled in CDHP 1 plan with non-tobacco incentive.

	Per Capita Cost	Premium Rate*	Implicit Age Subsidy
	A	B	C = A - B
Retiree	\$ 841.67	\$ 534.04	\$ 307.63
Spouse	\$ 841.67	\$ 841.67	\$ 0.00

All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

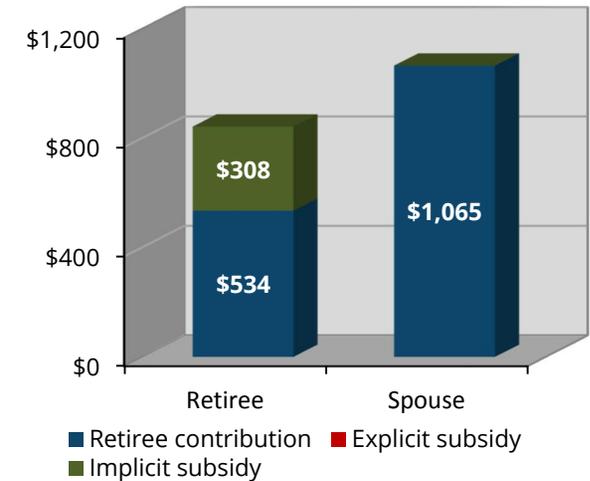
* Spouse premium rate has been limited to the per capita cost.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 74/75 monthly total cost for a retiree age 60 and his spouse of the same age enrolled in CDHP 1 plan with non-tobacco incentive.

	Retiree		Spouse	
Retiree contribution	\$	534.04	\$	1,064.70
Explicit subsidy	\$	0.00	\$	0.00
Implicit subsidy	\$	307.63	\$	0.00
Total monthly cost	\$	841.67	\$	1,064.70

GASB Subsidy Breakdown



SECTION D - INDIANA STATE POLICE

**Schedule of Changes in Net OPEB Liability and Related Ratios**

OPEB Liability	FY 2016/17
Total OPEB Liability	
Total OPEB liability – beginning of year	\$ 586,042,211
Service cost	24,701,375
Interest	16,986,966
Changes of benefit terms	(34,808,082)
Changes in assumptions	(48,450,933)
Differences between expected and actual experience	3,920,752
Benefit payments	(8,655,904)
Net change in total OPEB liability	\$ (46,305,826)
Total OPEB liability – end of year	\$ 539,736,385
Plan Fiduciary Net Position	
Plan fiduciary net position – beginning of year	\$ 78,715,663
Contributions – employer	26,871,267
Contributions – active employees	472,560
Net investment income	507,661
Benefit payments	(8,655,904)
Trust administrative expenses	(588,347)
Net change in plan fiduciary net position	\$ 18,607,237
Plan fiduciary net position – end of year	\$ 97,322,900
Net OPEB Liability – end of year	\$ 442,413,485
Plan fiduciary net position as % of total OPEB liability	18.0%
Covered employee payroll	\$ 96,174,272
Net OPEB liability as % of covered payroll	460.0%



Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in the prior GASB 45 actuarial valuations as shown in the Plan Sponsor financial statements.

	<i>FY 2016/17</i>		<i>FY 2015/16</i>		<i>FY 2014/15</i>		<i>FY 2013/14</i>		<i>FY 2012/13</i>	
Actuarially Determined Contribution (ADC)	\$	34,980,369 ¹⁰	\$	30,629,812	\$	29,064,071	\$	26,029,514	\$	27,418,949
Contributions in relation to the ADC ¹¹		26,871,267		34,862,363		25,319,778		24,834,550		11,683,966
Contribution deficiency / (excess)	\$	8,109,102	\$	(4,232,551)	\$	3,744,293	\$	1,194,964	\$	15,734,983
Covered employee payroll	\$	96,174,272	\$	91,753,000	\$	92,130,000	\$	93,630,000	\$	87,040,000
Contribution as a % of covered employee payroll		27.9%		38.0%		27.5%		26.5%		13.4%
	<i>FY 2011/12</i>		<i>FY 2010/11</i>		<i>FY 2009/10</i>		<i>FY 2008/09</i>		<i>FY 2007/08</i>	
Actuarially Determined Contribution (ADC)	\$	27,793,932	\$	30,154,522	\$	42,105,662	\$	35,270,894	\$	34,274,764
Contributions in relation to the ADC ¹¹		18,626,963		13,786,787		9,008,600		7,910,221		7,407,624
Contribution deficiency / (excess)	\$	9,166,969	\$	16,367,735	\$	33,097,062	\$	27,360,673	\$	26,867,140
Covered employee payroll	\$	87,040,000	\$	N/A	\$	N/A	\$	N/A	\$	N/A
Contribution as a % of covered employee payroll		21.4%		N/A		N/A		N/A		N/A

¹⁰ Refer to the Actuarially Determined Contributions section for the calculation details.

¹¹ Includes employer contribution for pay-go cost and pre-funding contributions deposited into the OPEB Trust.



OPEB Expense

<i>OPEB Expense</i>	<i>FY 2016/17</i>
Discount rate as of beginning of fiscal year	2.92%
Discount rate as of end of fiscal year	3.56%
Service cost	\$ 24,701,375
Interest	16,986,966
Changes of benefit terms	(34,808,082)
Projected earnings on OPEB plan investments	(2,850,026)
Reduction for contributions from active employees	(472,560)
OPEB plan administrative expenses	588,347
Current period recognition of deferred outflows / (inflows) of resources	
Differences between expected and actual experience	\$ 280,054
Changes in assumptions	(3,460,781)
Net difference between projected and actual earnings on OPEB plan investments	468,473
Total current period recognition	\$ (2,712,254)
Total OPEB expense	\$ 1,433,766



Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Difference between projected and actual earnings in OPEB plan investments

The initial amortization period for the first two items noted above is based on the average future service to retirement while the difference between projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the item above.

<i>Differences between expected and actual experience for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 3,920,752	14	\$ 280,054	\$ 3,640,698

<i>Changes in assumptions for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (48,450,933)	14	\$ (3,460,781)	\$ (44,990,152)

<i>Net difference between projected and actual earnings in OPEB plan investments for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 2,342,365	5	\$ 468,473	\$ 1,873,892

<i>As of fiscal year ending June 30, 2017</i>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
Differences between expected and actual experience	\$ 3,640,698	\$ 0
Changes in assumptions	0	(44,990,152)
Net difference between projected and actual earnings in OPEB plan investments	1,873,892	0
Total	\$ 5,514,590	\$ (44,990,152)



Deferred Outflows / (Inflows) of Resources – Continued

Annual Amortization of Deferred Outflows / (Inflows)

The balances of June 30, 2017 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

<i>FYE</i>	<i>Balance</i>
2018	\$ (2,712,254)
2019	\$ (2,712,254)
2020	\$ (2,712,254)
2021	\$ (2,712,254)
2022	\$ (3,180,727)
Thereafter	\$ (25,445,819)

Sensitivity Results

The following presents the net OPEB liability as of June 30, 2017, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.56%.
- The 1% decrease in discount rate would be 2.56%.
- The 1% increase in discount rate would be 4.56%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 548,081,234
Current Discount Rate	\$ 442,413,485
1% Increase	\$ 359,432,751

The following presents the net OPEB liability as of June 30, 2016, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 4.5%.
- The 1% decrease in health care trend rates would assume an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 3.5%.
- The 1% increase in health care trend rates would assume an initial rate of 10.0% decreasing by 0.5% annually to an ultimate rate of 5.5%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 354,218,864
Current Health Care Trend Rates	\$ 442,413,485
1% Increase	\$ 557,098,483

**Asset Information**

Asset Breakdown		FY 2016/17
Assets		
Cash and cash equivalents	\$	6,021,997
Securities lending cash collateral		0
Total cash	\$	6,021,997
Receivables		
Contributions	\$	0
Accrued interest		215,043
Total receivables	\$	215,043
Investments		
Fixed income	\$	92,447,567
Equities		0
Mutual Funds		0
Other		0
Total investments	\$	92,447,567
Total assets	\$	98,684,607
Liabilities		
Payables		
Investment management fees	\$	0
Benefits		(1,361,707)
Total liabilities	\$	(1,361,707)
Net position restricted to OPEB	\$	97,322,900

Asset Reconciliation		FY 2016/17
Additions		
Contributions received		
Employer	\$	26,871,267
Employee		472,560
Total contributions	\$	27,343,827
Investment income		
Net increase in fair value of investments	\$	507,661
Interests and dividends		0
Investment expense, other than from securities lending		0
Securities lending income		0
Securities lending expense		0
Net investment income	\$	507,661
Total additions	\$	27,851,488
Deductions		
Benefit payments (net of retiree contributions)	\$	(8,655,904)
Administrative expenses		(588,347)
Other		0
Total deductions	\$	(9,244,251)
Net increase in net position	\$	18,607,237
Net position restricted to OPEB		
Beginning of year		78,715,663
End of year	\$	97,322,900

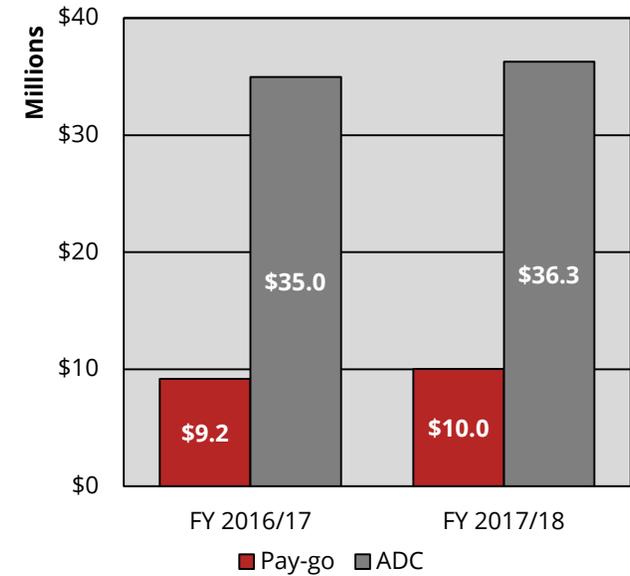


Actuarially Determined Contribution

The Actuarially Determined Contributions calculated below are recommended target contributions and assumes that the Plan Sponsor has the ability to contribute these amounts on an annual basis. The Plan Sponsor has the responsibility to decide how much it should contribute after considering its other needs and the OPEB participants' needs.

	FY 2016/17	FY 2017/18
Discount rate	4.50%	4.50%
Payroll growth factor used for amortization	N/A	N/A
Actuarial cost method	Entry Age Normal Level % of Salary	Entry Age Normal Level % of Salary
Amortization type	Level Dollar	Level Dollar
Amortization period	30 years	29 years
Actuarial accrued liability (AAL) – beginning of year	\$ 437,458,813	\$ 461,206,005
Actuarial value of assets – beginning of year	(78,715,663)	(97,322,900)
Unfunded AAL – beginning of year	\$ 358,743,150	\$ 363,883,105
Normal Cost ¹²	\$ 12,398,635	\$ 12,966,025
Amortization of UAAL	21,075,402	21,733,611
Total normal cost plus amortization	\$ 33,474,037	\$ 34,699,636
Interest to the end of year	1,506,332	1,561,484
Actuarially Determined Contribution – Preliminary	\$ 34,980,369	\$ 36,261,120
Expected benefit payments	9,184,477	10,011,080
Actuarially Determined Contribution – Final¹³	\$ 34,980,369	\$ 36,261,120

Cash vs Accrual Accounting



Actuarially Determined Contribution (ADC) is the target or recommended contribution to a defined benefit OPEB plan, which if paid on an ongoing basis, will provide sufficient resources to fund future costs for services to be earned and liabilities attributed to past services. This is typically higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

¹² Reduced for active employee contributions, which are \$472,560 for FY 2016/17 and \$484,374 for FY 2017/18 (based on FY 2016/17 contribution increased by total payroll growth assumption of 2.5%).

¹³ Set to be the greater of the preliminary ADC and expected benefit payments.



Projection of GASB Results

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs if the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

<i>Projection of Total OPEB Liability (TOL)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
TOL as of beginning of year	\$ 586,042,211	\$ 539,736,385
Normal cost as of beginning of year	24,000,559	17,810,790
Exp. benefit payments during the year	(8,183,344)	(10,011,080)
Interest adjustment to end of year	17,694,632	19,672,041
Exp. TOL as of end of year	\$ 619,554,058	\$ 567,208,136
Actuarial Loss/(Gain)	(79,817,673)	TBD
Actual TOL as of end of year	\$ 539,736,385	\$ TBD

<i>Projection of Actuarial Value of Assets (AVA)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
AVA as of beginning of year	\$ 78,715,663	\$ 97,322,900
Exp. employer contributions during the year ¹⁴	26,871,267	27,011,080
Exp. benefit payments during the year	(8,183,344)	(10,011,080)
Exp. investment income ¹⁵	2,850,026	3,437,035
Exp. Trust administrative expenses	(588,347)	0
Exp. AVA as of end of year	\$ 99,665,265	\$ 117,759,935
Differences between expected and actual experience	(2,342,365)	TBD
AVA as of end of year	\$ 97,322,900	\$ TBD

¹⁴ Employer contribution for 2016/17 is based on actual employer contribution made into the Trust. FY 2017/18 expected employer contribution is based on the expected pay-go cost plus the average Trust contribution in the past four years, rounded down to the nearest million.

¹⁵ Fiscal years 2016/17 and 2017/18 expected investment income are calculated based on a 3.25% asset return.

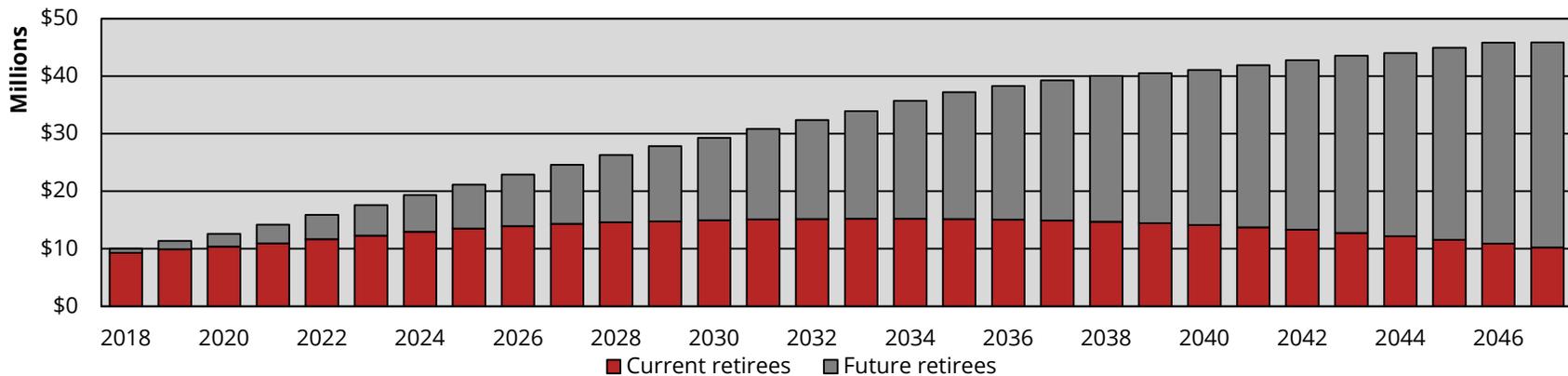


Employer Contribution Cash Flow Projections

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current / future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees ¹⁶	Total	FYE	Current Retirees	Future Retirees ¹⁶	Total	FYE	Current Retirees	Future Retirees ¹⁶	Total
2018	\$ 9,275,592	\$ 735,488	\$ 10,011,080	2028	\$ 14,613,432	\$ 11,681,122	\$ 26,294,554	2038	\$ 14,674,240	\$ 25,384,006	\$ 40,058,246
2019	\$ 9,892,790	\$ 1,460,909	\$ 11,353,699	2029	\$ 14,759,827	\$ 13,049,270	\$ 27,809,097	2039	\$ 14,419,510	\$ 26,108,034	\$ 40,527,544
2020	\$ 10,343,295	\$ 2,228,489	\$ 12,571,784	2030	\$ 14,958,025	\$ 14,329,563	\$ 29,287,588	2040	\$ 14,104,462	\$ 26,960,974	\$ 41,065,436
2021	\$ 10,924,040	\$ 3,245,097	\$ 14,169,137	2031	\$ 15,109,237	\$ 15,728,080	\$ 30,837,317	2041	\$ 13,716,848	\$ 28,170,161	\$ 41,887,009
2022	\$ 11,643,800	\$ 4,241,584	\$ 15,885,384	2032	\$ 15,174,093	\$ 17,169,705	\$ 32,343,798	2042	\$ 13,293,831	\$ 29,473,264	\$ 42,767,095
2023	\$ 12,298,651	\$ 5,302,116	\$ 17,600,767	2033	\$ 15,212,434	\$ 18,701,623	\$ 33,914,057	2043	\$ 12,741,412	\$ 30,812,099	\$ 43,553,511
2024	\$ 12,923,303	\$ 6,392,346	\$ 19,315,649	2034	\$ 15,234,190	\$ 20,489,497	\$ 35,723,687	2044	\$ 12,145,311	\$ 31,882,986	\$ 44,028,297
2025	\$ 13,527,827	\$ 7,620,332	\$ 21,148,159	2035	\$ 15,136,149	\$ 22,059,757	\$ 37,195,906	2045	\$ 11,546,751	\$ 33,400,354	\$ 44,947,105
2026	\$ 13,947,560	\$ 8,934,555	\$ 22,882,115	2036	\$ 15,040,550	\$ 23,232,196	\$ 38,272,746	2046	\$ 10,891,802	\$ 34,932,373	\$ 45,824,175
2027	\$ 14,352,224	\$ 10,247,765	\$ 24,599,989	2037	\$ 14,913,827	\$ 24,375,811	\$ 39,289,638	2047	\$ 10,200,183	\$ 35,647,198	\$ 45,847,381

Projected Employer Pay-go Cost



¹⁶ Projections for future retirees do not take into account future new hires.



Discussion of Discount Rates

Under GASB 74, the discount rate used in valuing OPEB liabilities for funded plans as of the Measurement Date must be based on the long-term expected rate of return on OPEB plan investments that are expected to be used to finance future benefit payments to the extent that (a) they are sufficient to pay for the projected benefit payments and (b) the OPEB plan assets are invested using a strategy that will achieve that return. When the OPEB plan investments are insufficient to cover future benefit payments, a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale) must be used.

For the current valuation:

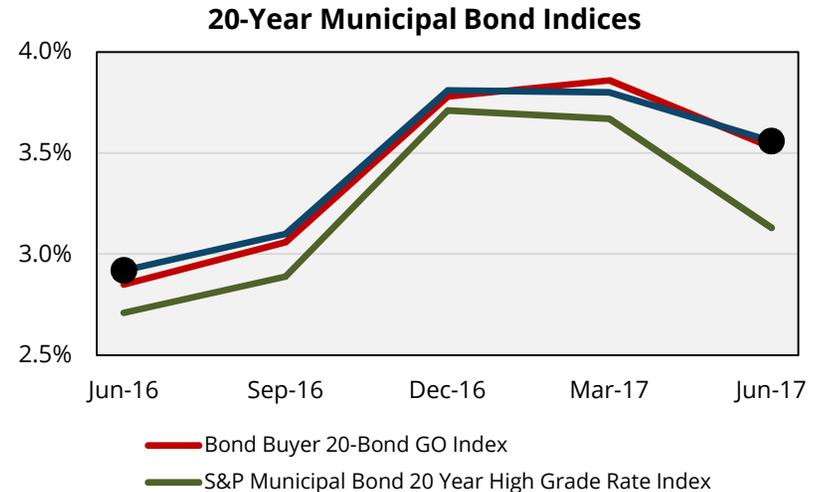
1. The long-term expected rate of return on OPEB plan investment is 3.25%. This was determined using a building block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These expected future real rates of return are then combined to produce the long-term expected rate of return by weighting them based on the target asset allocation percentage and adding in expected inflation (2.25%). The best estimates of arithmetic real rates of return for each major asset class included in the OPEB Plan’s target asset allocation as of June 30, 2017 are summarized in the following table.

Asset Class	Target Allocation	L/T Expected Real ROR (JP Morgan)
U.S. Bond	100.00%	1.00%

2. The discount rate used when the OPEB plan investments are insufficient to pay for future benefit payments are selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

Yield as of	July 1, 2016	June 30, 2017
Bond Buyer Go 20-Bond Municipal Bond Index	2.85%	3.53%
S&P Municipal Bond 20-Year High Grade Rate Index	2.71%	3.13%
Fidelity 20-Year Go Municipal Bond Index	2.92%	3.56%
Bond Index Range	2.71% - 2.92%	3.13% - 3.56%
Actual Discount Rate Used	2.92%	3.56%

3. The final equivalent single discount rate used for this year’s valuation is 2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 due to the long-term expected rate of return on OPEB plan investment that is lower than the 20-year tax-exempt general obligation municipal bonds yield.





Summary of Plan Participants – Active Employees

<i>Actives with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Optional	576	1,089	1,665	42.9	14.9	\$ 96,174,272
Total actives with coverage	576	1,089	1,665	42.9	14.9	\$ 96,174,272

There are no active employees without coverage reported for Indiana State Police.

Active Age-Service Distribution

<i>Age</i>	<i>Years of Service</i>										<i>Total</i>	
	<i>< 1</i>	<i>1 to 4</i>	<i>5 to 9</i>	<i>10 to 14</i>	<i>15 to 19</i>	<i>20 to 24</i>	<i>25 to 29</i>	<i>30 to 34</i>	<i>35 to 39</i>	<i>40 & up</i>		
Under 25	28	45										73
25 to 29	24	118	26									168
30 to 34	4	53	128	18	2							205
35 to 39	4	25	75	79	34	1						218
40 to 44	2	16	36	40	130	46						270
45 to 49	2	6	18	28	80	139	20					293
50 to 54	6	8	7	2	18	38	85	23				187
55 to 59		10	6	7	8	15	36	36	16	2		136
60 to 64	2	11	3	10	8	8	4	20	25	5		96
65 to 69		2	1	2		3	1	1	2	4		16
70 & up					1		1			1		3
Total	72	294	300	186	281	250	147	80	43	12		1,665



Summary of Plan Participants – Retirees

<i>Retirees with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>
Basic without Medicare	27	36	63	62.6
Optional without Medicare	103	212	315	61.2
Basic with Medicare	48	43	91	78.5
Optional with Medicare	254	397	651	74.9
Total retirees with coverage	432	688	1,120	70.7

In addition to the above, there are 258 retirees who currently have no health coverage with ISP but they have life insurance coverage. They have been included in the GASB valuation.

Retiree Age Distribution¹⁷

<i>Age</i>	<i>Retirees</i>
< 45	4
45 to 49	4
50 to 54	36
55 to 59	87
60 to 64	206
65 to 69	199
70 to 74	221
75 to 79	180
80 to 84	108
85 to 89	53
90 & up	22
Total	1,120

¹⁷ Including retirees and beneficiaries who have health coverage only.



Substantive Plan Provisions

Eligibility

Police officers and civilian employees employed by the Indiana State Police are eligible for retiree health care benefits at the earlier of:

- a. 25 years of service (20 years of service requirement in prior valuations)
- b. Age 55 with 85 points
- c. Age 60 with 15 years of service
- d. Age 65 with 10 years of service

Spouse Coverage

Surviving spouse coverage continues for life after the death of the member (retiree or active employee). The coverage is free for six months and then it reverts to single retiree coverage.

Medical Benefit

The same benefit options are available to retirees as active employees. All health plans are self-insured. The plan coordinates with Medicare on a carve-out basis. The Indiana State Police plan is primary on prescription drug coverage for Medicare retirees.

The Basic Plan includes medical coverage only. The Optional Plan includes medical, dental, and vision coverage.

The 2018 monthly premium rates effective on January 1, 2018 (as determined by the Indiana State Police) for the plans are as shown below:

	Retiree Only	Retiree plus One Dependent
<u>Without Medicare</u>		
Basic Plan	\$ 439.95	\$ 587.54
Optional Plan	\$ 514.45	\$ 729.80
<u>With Medicare</u>		
Basic Plan	\$ 161.53	\$ 201.95
Optional Plan	\$ 188.24	\$ 257.67



Substantive Plan Provisions – Continued

State Police Explicit Subsidy

None

Retiree Contributions

Retirees pay the full cost of the retiree health care coverage as determined by the State Police. The breakdown of retiree contributions by benefit are as shown below.

Optional Plan	Retiree Only	Retiree plus One Dependent	Spouse Increment
Without Medicare	\$ 514.45	\$ 729.80	\$ 215.35
With Medicare	\$ 188.24	\$ 257.67	\$ 69.43

Basic Plan	Retiree Only	Retiree plus One Dependent	Spouse Increment
Without Medicare	\$ 439.95	\$ 587.54	\$ 147.59
With Medicare	\$ 161.53	\$ 201.95	\$ 40.42

Life Insurance

Police officers are eligible for the following life insurance benefits depending on their hire date:

- Hired prior to July 1, 1986: \$10,000
- Hired on/after July 1, 1986: \$14,500

Disability Benefit

Police officers who become long-term disabled receive free health care coverage during the disability period. When they meet the requirements for retiree health care benefits they will have to make the required retiree contributions.

Senate Enrolled Act 501

Purpose

Senate Enrolled Act 501 establishes a retirement medical benefits account for elected officers, appointed officers, and employees of the executive, legislative, and judicial branches of state government to pay for participants’ medical expenses after retirement.

Effective July 1, 2011 employees of Indiana State Police, other than those who waived coverage under a common and unified plan of self-insurance provided for under IC 5-10-8-6 before July 1, 2011, are not eligible for the Senate Enrolled Act 501 retirement medical benefits account.



Actuarial Assumptions and Methods

Measurement Date	June 30, 2017
Actuarial Valuation Date	June 30, 2017 with no adjustments to get to the June 30, 2017 measurement date. Liabilities as of July 1, 2016 are based on an actuarial valuation date of July 1, 2016.
Discount Rate	2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for accounting disclosure purposes; refer to the Discussion of Discount Rates section for more information on selection of the discount rate. 4.50% for calculating Actuarially Determined Contribution
Inflation Rate	2.25%
Cost Method	Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where: <ul style="list-style-type: none">• service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and• annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.
Salary Scale	2.25% for general wage inflation plus 0.25% for merit and productivity increases.
Census Data	Census data was provided by the State and it was collected as of June 30, 2017. We have reviewed it for reasonableness and have made the following adjustment to the census data: <ul style="list-style-type: none">• Participants who were found in both State Personnel and ISP census data are included in the ISP census data for valuation purposes. These participants are eligible to receive retiree health care coverage through ISP once they meet the eligibility requirements.• Hire dates for employees hired after June 30, 2017 have been changed to June 30, 2017.• Only employees and retirees who were identified by the ISP as not being eligible for Medicare assumed to be ineligible for Medicare for life. All other participants are assumed to be eligible for Medicare.• Active employees who were indicated as DROP participants last year are assumed to still be in DROP unless they have retired.



Actuarial Assumptions and Methods – Continued

Contribution Funding Policy

Indiana State Police has established a 401(h) account and Section 115 Trust for the purpose of funding retiree medical benefits since FYE June 30, 2011. Contributions to the 401(h) account and Section 115 Trust will be made from the following sources:

1. Medicare Part D retiree drug subsidy reimbursement
2. Excess Long-Term Disability (LTD) fund
3. A percentage of retiree premiums according to the following schedule:
 - a. Starting January 1, 2012 through June 30, 2014: 0%
 - b. July 1, 2014 through June 30, 2016: 25%
 - c. July 1, 2016 through June 30, 2018: 50%
 - d. July 1, 2018 onwards: 100%
4. State contributions for ISP active employees in accordance with SEA 501
5. Discretionary contributions from ISP Healthcare Fund up to \$1 million

Additionally, active employees will contribute \$20 per paycheck towards the 401(h) Trust account.

At this time, the ISP new funding policy is expected to continue for the foreseeable future.

Mortality

SS-2012 Total Dataset Mortality Table with blue collar adjustment fully generational using SSA scale

Withdrawal Rate

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health care coverage.

No withdrawal rates are assumed for police officers in the pre-1987 plan.

For police officers in the 1987 pension plan, the annual withdrawal rates are assumed to be 2% prior to age 37. For ages 37 and older the annual withdrawal rates follow the Saranson T-1 table.

Disability

Sample rates are as shown below.

Age	Male	Female
45	0.54%	0.54%
50	0.91%	0.91%
55	1.51%	1.51%
60	2.44%	2.44%



Actuarial Assumptions and Methods – Continued

Retirement Rate

Annual retirement rates were based on ISP’s 2011 experience study.

<u>YOS</u>	<u>1987 Plan</u>	<u>Age</u>	<u>Pre-1987 Plan</u>
25	15.0%	45	10.0%
26	12.5%	46 – 54	7.5%
27	10.0%	55	10.0%
28 – 29	7.5%	56	12.5%
30	10.0%	57	15.0%
31	12.5%	58	20.0%
32	15.0%	59 – 64	40.0%
33	40.0%	65+	100.0%
34+	27.5%		

Health Care Trend Rates

<u>FYE</u>	<u>Medical / Rx</u>	<u>FYE</u>	<u>Medical / Rx</u>
2018	9.0%	2023	6.5%
2019	8.5%	2024	6.0%
2020	8.0%	2025	5.5%
2021	7.5%	2026	5.0%
2022	7.0%	2027+	4.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Dental and vision costs are assumed to increase by 3.0% in the future.

Retiree Contributions

Retiree contributions are assumed to increase with health care trend rates.

Health Care Coverage Election Rate

Active Employees

100% of active employees with current coverage are assumed to elect coverage at retirement. Active employees with no current coverage are assumed not to elect coverage at retirement.

Inactive Employees

Based on actual data



Actuarial Assumptions and Methods – Continued

Spousal Coverage

80% of male and 40% of female employees are assumed to be married upon retirement. Husbands are assumed to be three years older than wives.

Spousal coverage for current retirees is based on actual data.

Per Capita Costs

Annual per capita costs are based on claims and enrollment data for the 23-month period ending May 31, 2017 (excluding July 2016 which was not available) projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018. The per capita costs were actuarially increased to a retiree-basis using health index factors and enrollment. These costs are assumed to increase with health care trend rates.

Age	Non-Disabled Retirees		Disabled Retirees with Medicare	
	Male	Female	Male	Female
<55	\$ 7,900	\$ 9,400	\$ 3,500	\$ 3,500
55 – 59	\$ 10,300	\$ 10,600	\$ 3,500	\$ 3,500
60 – 64	\$ 13,300	\$ 12,600	\$ 3,500	\$ 3,500

Age	Retirees with Medicare		Retirees without Medicare	
	Male	Female	Male	Female
65 – 69	\$ 3,500	\$ 3,500	\$ 13,200	\$ 13,200
70 – 74	\$ 4,100	\$ 4,100	\$ 14,200	\$ 14,200
75+	\$ 4,800	\$ 4,800	\$ 15,300	\$ 15,300

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Annual dental and vision per capita costs are \$532 and \$62 respectively for those enrolled in the Optional plan and they are expected to increase according to dental and vision trend rates. These costs are based on claims and enrollment data for the 11-month period ending May 31, 2017 projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018.

Data Assumptions

15% of future retirees are assumed to elect the Basic Plan (without dental and vision benefits).



Actuarial Assumptions and Methods – Continued

Explicit Subsidy

The difference between (a) the medical portion of the premium rate approved by ISP and (b) the retiree contribution for medical benefits. Below is an example of the monthly explicit subsidy for a retiree under age 65 enrolled in the Optional plan.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 439.95	\$ 439.95	\$ 0.00
Spouse	\$ 147.59	\$ 147.59	\$ 0.00

Implicit Age Subsidy

The difference between (a) the per capita cost as determined by Nyhart and (b) the rate approved by ISP. Below is an example of the monthly implicit subsidies for a male retiree age 60 enrolled in the Optional plan.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 1,108.33	\$ 439.95	\$ 668.38
Spouse	\$ 1,050.00	\$ 147.59	\$ 902.41

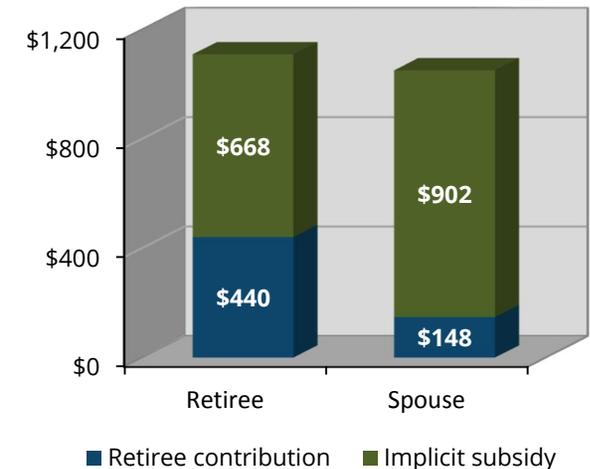
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 74/75 monthly total cost for a male retiree age 60 and his spouse of the same age for medical benefits only.

	Retiree		Spouse	
Retiree contribution	\$	439.95	\$	147.59
Explicit subsidy	\$	0.00	\$	0.00
Implicit subsidy	\$	668.38	\$	902.41
Total monthly cost	\$	1,108.33	\$	1,050.00

GASB Subsidy Breakdown



SECTION E – CONSERVATION AND EXCISE POLICE

**Schedule of Changes in Net OPEB Liability and Related Ratios**

OPEB Liability	FY 2016/17
Total OPEB Liability	
Total OPEB liability – beginning of year	\$ 67,647,892
Service cost	2,326,811
Interest	1,956,404
Changes of benefit terms	(7,022,882)
Changes in assumptions	(5,925,297)
Differences between expected and actual experience	(1,654,078)
Benefit payments	(1,304,900)
Net change in total OPEB liability	\$ (11,623,942)
Total OPEB liability – end of year	\$ 56,023,950
Plan Fiduciary Net Position	
Plan fiduciary net position – beginning of year	\$ 12,766,168
Contributions – employer	3,717,824
Contributions – retired members	0
Net investment income	79,421
Benefit payments	(1,304,900)
Trust administrative expenses	(82,751)
Net change in plan fiduciary net position	\$ 2,409,594
Plan fiduciary net position – end of year	\$ 15,175,762
Net OPEB Liability – end of year	\$ 40,848,188
Plan fiduciary net position as % of total OPEB liability	27.1%
Covered employee payroll	\$ 16,471,677
Net OPEB liability as % of covered payroll	248.0%



Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in the prior GASB 45 actuarial valuations as shown in the Plan Sponsor financial statements.

	<i>FY 2016/17</i>		<i>FY 2015/16</i>		<i>FY 2014/15</i>		<i>FY 2013/14</i>		<i>FY 2012/13</i>	
Actuarially Determined Contribution (ADC)	\$	3,348,809 ¹⁸	\$	3,312,731	\$	3,123,622	\$	2,821,614	\$	3,052,678
Contributions in relation to the ADC ¹⁹		3,717,824		3,575,032		2,436,777		2,482,148		2,892,842
Contribution deficiency / (excess)	\$	(369,015)	\$	(262,301)	\$	686,845	\$	339,466	\$	159,836
Covered employee payroll	\$	16,471,677	\$	14,497,000	\$	15,106,000	\$	15,969,000	\$	25,532,000
Contribution as a % of covered employee payroll		22.6%		24.7%		16.1%		15.5%		11.3%
	<i>FY 2011/12</i>		<i>FY 2010/11</i>		<i>FY 2009/10</i>		<i>FY 2008/09</i>		<i>FY 2007/08</i>	
Actuarially Determined Contribution (ADC)	\$	3,674,720	\$	4,423,420	\$	5,372,510	\$	4,178,292	\$	3,965,266
Contributions in relation to the ADC ¹⁸		6,889,202		1,335,846		1,303,244		982,400		898,434
Contribution deficiency / (excess)	\$	(3,214,482)	\$	3,087,574	\$	4,069,266	\$	3,195,892	\$	3,066,832
Covered employee payroll	\$	12,600,000	\$	N/A	\$	N/A	\$	12,900,000	\$	12,900,000
Contribution as a % of covered employee payroll		54.7%		N/A		N/A		7.6%		7.0%

¹⁸ Refer to the Actuarially Determined Contributions section for the calculation details.

¹⁹ Includes employer contribution for pay-go cost paid from General Fund and pre-funding contributions deposited into the OPEB Trust.



OPEB Expense

<i>OPEB Expense</i>	<i>FY 2016/17</i>
Discount rate as of beginning of fiscal year	2.92%
Discount rate as of end of fiscal year	3.56%
Service cost	\$ 2,326,811
Interest	1,956,404
Changes of benefit terms	(7,022,882)
Projected earnings on OPEB plan investments	(452,463)
Reduction for contributions from active employees	0
OPEB plan administrative expenses	82,751
Current period recognition of deferred outflows / (inflows) of resources	
Differences between expected and actual experience	\$ (110,272)
Changes in assumptions	(395,020)
Net difference between projected and actual earnings on OPEB plan investments	74,608
Total current period recognition	\$ (430,684)
Total OPEB expense	\$ (3,540,063)



Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Difference between projected and actual earnings in OPEB plan investments

The initial amortization period for the first two items noted above is based on the average future service to retirement while the difference between projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the item above.

<i>Differences between expected and actual experience for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (1,654,078)	15	\$ (110,272)	\$ (1,543,806)

<i>Changes in assumptions for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ (5,925,297)	15	\$ (395,020)	\$ (5,530,277)

<i>Net difference between projected and actual earnings in OPEB plan investments for FYE</i>	<i>Initial Balance</i>	<i>Initial Amortization Period</i>	<i>Annual Recognition</i>	<i>Unamortized Balance as of June 30, 2017</i>
June 30, 2017	\$ 373,042	5	\$ 74,608	\$ 298,434

<i>As of fiscal year ending June 30, 2017</i>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
Differences between expected and actual experience	\$ 0	\$ (1,543,806)
Changes in assumptions	0	(5,530,277)
Net difference between projected and actual earnings in OPEB plan investments	298,434	0
Total	\$ 298,434	\$ (7,074,083)



Deferred Outflows / (Inflows) of Resources – Continued

Annual Amortization of Deferred Outflows / (Inflows)

The balances of June 30, 2017 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

<i>FYE</i>	<i>Balance</i>
2018	\$ (430,684)
2019	\$ (430,684)
2020	\$ (430,684)
2021	\$ (430,682)
2022	\$ (505,292)
Thereafter	\$ (4,547,623)

Sensitivity Results

The following presents the net OPEB liability as of June 30, 2017, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 3.56%.
- The 1% decrease in discount rate would be 2.56%.
- The 1% increase in discount rate would be 4.56%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 52,129,759
Current Discount Rate	\$ 40,848,188
1% Increase	\$ 32,105,139

The following presents the net OPEB liability as of June 30, 2017, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 4.5%.
- The 1% decrease in health care trend rates would assume an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 3.5%.
- The 1% increase in health care trend rates would assume an initial rate of 10.0% decreasing by 0.5% annually to an ultimate rate of 5.5%.

<i>As of June 30, 2017</i>	<i>Net OPEB Liability</i>
1% Decrease	\$ 31,234,966
Current Health Care Trend Rates	\$ 40,848,188
1% Increase	\$ 53,635,043



Asset Information

Asset Breakdown		FY 2016/17
Assets		
Cash and cash equivalents	\$	797,345
Securities lending cash collateral		0
Total cash	\$	797,345
Receivables		
Contributions	\$	63,966
Accrued interest		43,719
Total receivables	\$	107,685
Investments		
Fixed income	\$	14,445,806
Equities		0
Mutual Funds		0
Other		0
Total investments	\$	14,445,806
Total assets	\$	15,350,836
Liabilities		
Payables		
Investment management fees	\$	0
Benefits		(175,074)
Total liabilities	\$	(175,074)
Net position restricted to OPEB	\$	15,175,762

Asset Reconciliation		FY 2016/17
Additions		
Contributions received		
Employer	\$	3,717,824
Employee		0
Total contributions	\$	3,717,824
Investment income		
Net increase in fair value of investments	\$	79,421
Interests and dividends		0
Investment expense, other than from securities lending		0
Securities lending income		0
Securities lending expense		0
Net investment income	\$	79,421
Total additions	\$	3,797,245
Deductions		
Benefit payments (net of retiree contributions)	\$	(1,304,900)
Administrative expenses		(82,751)
Other		0
Total deductions	\$	(1,387,651)
Net increase in net position	\$	2,409,594
Net position restricted to OPEB		
Beginning of year		12,766,168
End of year	\$	15,175,762

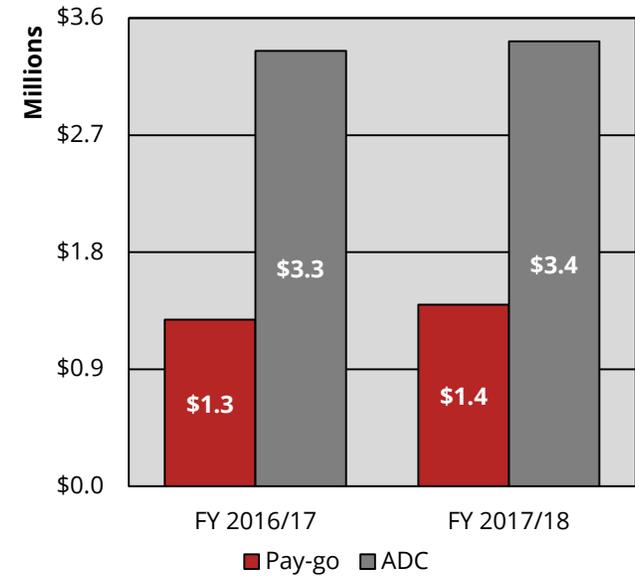


Actuarially Determined Contribution

The Actuarially Determined Contributions calculated below are recommended target contributions and assumes that the Plan Sponsor has the ability to contribute these amounts on an annual basis. The Plan Sponsor has the responsibility to decide how much it should contribute after considering its other needs and the OPEB participants' needs.

	FY 2016/17	FY 2017/18
Discount rate	3.25%	3.25%
Payroll growth factor used for amortization	N/A	N/A
Actuarial cost method	Entry Age Normal Level % of Salary	Entry Age Normal Level % of Salary
Amortization type	Level Dollar	Level Dollar
Amortization period	30 years	29 years
Actuarial accrued liability (AAL) – beginning of year	\$ 45,672,357	\$ 47,747,099
Actuarial value of assets – beginning of year	(12,766,168)	(15,175,762)
Unfunded AAL – beginning of year	\$ 32,906,189	\$ 32,571,337
Normal Cost	\$ 1,271,433	\$ 1,328,647
Amortization of UAAL	1,933,169	1,945,385
Total normal cost plus amortization	\$ 3,204,602	\$ 3,274,032
Interest to the end of year	144,207	147,331
Actuarially Determined Contribution – Preliminary	\$ 3,348,809	\$ 3,421,363
Expected benefit payments	1,280,664	1,395,924
Actuarially Determined Contribution – Final²⁰	\$ 3,348,809	\$ 3,421,363

Cash vs Accrual Accounting



Actuarially Determined Contribution (ADC) is the target or recommended contribution to a defined benefit OPEB plan, which if paid on an ongoing basis, will provide sufficient resources to fund future costs for services to be earned and liabilities attributed to past services. This is typically higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

²⁰ Set to be the greater of the preliminary ADC and expected benefit payments.



Projection of GASB Results

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs if the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

<i>Projection of Total OPEB Liability (TOL)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
TOL as of beginning of year	\$ 67,647,892	\$ 56,023,950
Normal cost as of beginning of year	2,260,796	1,794,865
Exp. benefit payments during the year	(1,304,900)	(1,395,924)
Interest adjustment to end of year	2,022,419	2,033,720
Exp. TOL as of end of year	\$ 70,626,207	\$ 58,456,611
Actuarial Loss/(Gain)	(14,602,257)	TBD
Actual TOL as of end of year	\$ 56,023,950	\$ TBD

<i>Projection of Actuarial Value of Assets (AVA)</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>
AVA as of beginning of year	\$ 12,766,168	\$ 15,175,762
Exp. employer contributions during the year ²¹	3,717,824	3,095,924
Exp. benefit payments during the year	(1,304,900)	(1,395,924)
Exp. investment income ²²	452,463	520,616
Exp. Trust administrative expenses	(82,751)	0
Exp. AVA as of end of year	\$ 15,548,804	\$ 17,396,378
Differences between expected and actual experience	(373,042)	TBD
AVA as of end of year	\$ 15,175,762	\$ TBD

²¹ Employer contribution for 2016/17 is based on actual employer contribution made into the Trust. FY 2017/18 expected employer contribution is based on the expected pay-go cost plus the average Trust contribution in the past four years, rounded down to the nearest hundred thousand.

²² Fiscal years 2016/17 and 2017/18 expected investment income are calculated based on a 3.25% asset return.

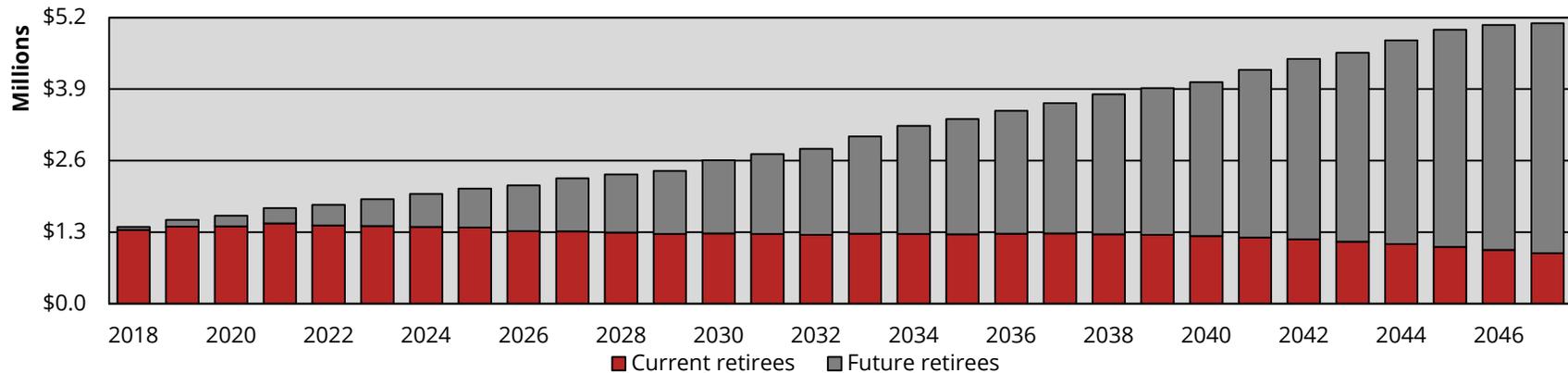


Employer Contribution Cash Flow Projections

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current / future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees ²³	Total	FYE	Current Retirees	Future Retirees ²³	Total	FYE	Current Retirees	Future Retirees ²³	Total
2018	\$ 1,341,820	\$ 54,104	\$ 1,395,924	2028	\$ 1,271,166	\$ 1,050,276	\$ 2,321,442	2038	\$ 1,228,777	\$ 2,527,786	\$ 3,756,563
2019	\$ 1,402,063	\$ 119,821	\$ 1,521,884	2029	\$ 1,240,666	\$ 1,139,607	\$ 2,380,273	2039	\$ 1,217,017	\$ 2,647,436	\$ 3,864,453
2020	\$ 1,391,695	\$ 191,549	\$ 1,583,244	2030	\$ 1,252,625	\$ 1,319,559	\$ 2,572,184	2040	\$ 1,193,440	\$ 2,775,858	\$ 3,969,298
2021	\$ 1,442,793	\$ 275,943	\$ 1,718,736	2031	\$ 1,237,705	\$ 1,446,348	\$ 2,684,053	2041	\$ 1,165,863	\$ 3,025,951	\$ 4,191,814
2022	\$ 1,406,576	\$ 372,494	\$ 1,779,070	2032	\$ 1,219,473	\$ 1,557,735	\$ 2,777,208	2042	\$ 1,134,226	\$ 3,254,194	\$ 4,388,420
2023	\$ 1,393,399	\$ 484,202	\$ 1,877,601	2033	\$ 1,242,331	\$ 1,755,744	\$ 2,998,075	2043	\$ 1,091,418	\$ 3,409,324	\$ 4,500,742
2024	\$ 1,377,169	\$ 597,083	\$ 1,974,252	2034	\$ 1,234,615	\$ 1,956,971	\$ 3,191,586	2044	\$ 1,048,516	\$ 3,675,066	\$ 4,723,582
2025	\$ 1,361,295	\$ 706,161	\$ 2,067,456	2035	\$ 1,229,683	\$ 2,084,749	\$ 3,314,432	2045	\$ 1,000,076	\$ 3,914,737	\$ 4,914,813
2026	\$ 1,300,974	\$ 821,282	\$ 2,122,256	2036	\$ 1,240,968	\$ 2,217,372	\$ 3,458,340	2046	\$ 946,296	\$ 4,054,393	\$ 5,000,689
2027	\$ 1,290,947	\$ 959,053	\$ 2,250,000	2037	\$ 1,240,860	\$ 2,352,727	\$ 3,593,587	2047	\$ 889,729	\$ 4,141,905	\$ 5,031,634

Projected Employer Pay-go Cost



²³ Projections for future retirees do not take into account future new hires.



Discussion of Discount Rates

Under GASB 74, the discount rate used in valuing OPEB liabilities for funded plans as of the Measurement Date must be based on the long-term expected rate of return on OPEB plan investments that are expected to be used to finance future benefit payments to the extent that (a) they are sufficient to pay for the projected benefit payments and (b) the OPEB plan assets are invested using a strategy that will achieve that return. When the OPEB plan investments are insufficient to cover future benefit payments, a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale) must be used.

For the current valuation:

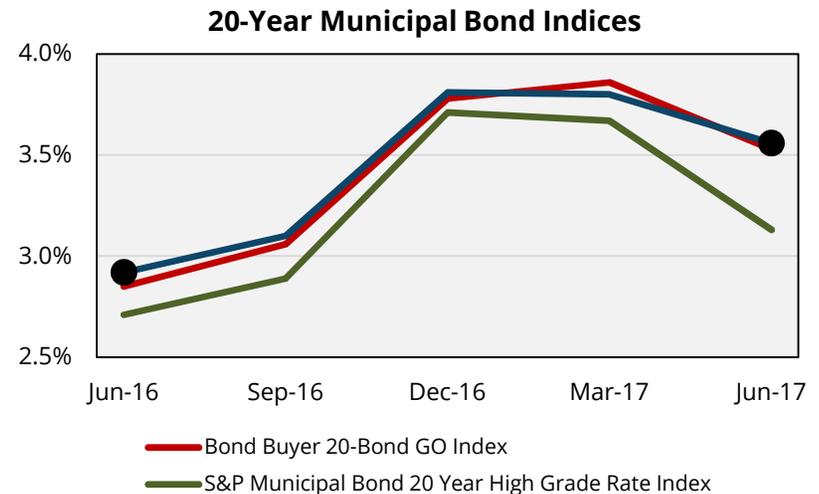
1. The long-term expected rate of return on OPEB plan investment is 3.25%. This was determined using a building block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These expected future real rates of return are then combined to produce the long-term expected rate of return by weighting them based on the target asset allocation percentage and adding in expected inflation (2.25%). The best estimates of arithmetic real rates of return for each major asset class included in the OPEB Plan’s target asset allocation as of June 30, 2017 are summarized in the following table.

Asset Class	Target Allocation	L/T Expected Real ROR (JP Morgan)
U.S. Bond	100.00%	1.00%

2. The discount rate used when the OPEB plan investments are insufficient to pay for future benefit payments are selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

Yield as of	July 1, 2016	June 30, 2017
Bond Buyer Go 20-Bond Municipal Bond Index	2.85%	3.53%
S&P Municipal Bond 20-Year High Grade Rate Index	2.71%	3.13%
Fidelity 20-Year Go Municipal Bond Index	2.92%	3.56%
Bond Index Range	2.71% - 2.92%	3.13% - 3.56%
Actual Discount Rate Used	2.92%	3.56%

3. The final equivalent single discount rate used for this year’s valuation is 2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 due to the long-term expected rate of return on OPEB plan investment that is lower than the 20-year tax-exempt general obligation municipal bonds yield.





Summary of Plan Participants - Active Employees

<i>Actives with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Total actives with coverage	72	190	262	39.4	14.0	\$ 16,180,355

	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Total actives without coverage	5	39.9	14.6	\$ 291,322

Active employees who currently have no coverage are assumed not to elect coverage at retirement. They have been excluded from the GASB valuation.

Active Age-Service Distribution

<i>Age</i>	<i>Years of Service</i>										<i>Total</i>
	<i>< 1</i>	<i>1 to 4</i>	<i>5 to 9</i>	<i>10 to 14</i>	<i>15 to 19</i>	<i>20 to 24</i>	<i>25 to 29</i>	<i>30 to 34</i>	<i>35 to 39</i>	<i>40 & up</i>	
Under 25	7	9									16
25 to 29		21	12	1							34
30 to 34	1	10	21	13							45
35 to 39		1	10	34	1	1					47
40 to 44		3	2	10	19	5					39
45 to 49		1	1	7	7	23	7				46
50 to 54					1	6	9	8			24
55 to 59						2	3	5	2		12
60 to 64								2	2		4
65 to 69											0
70 & up											0
Total	8	45	46	65	28	37	19	15	4	0	267



Summary of Plan Participants - Retirees

<i>Retirees with coverage</i>	<i>Single</i>	<i>Non-Single</i>	<i>Total</i>	<i>Avg. Age</i>
Total retirees with coverage	58	133	191	67.7

Retiree Age Distribution

<i>Age</i>	<i>Retirees</i>
< 45	
45 to 49	
50 to 54	10
55 to 59	24
60 to 64	43
65 to 69	43
70 to 74	36
75 to 79	20
80 to 84	7
85 to 89	4
90 & up	4
Total	191



Substantive Plan Provisions

Eligibility

Conservation and Excise police officers are eligible for retiree health care benefits at the earlier of:

- a. Age 50 with 25 years of service
- b. Age 55 with 85 points

Spouse Coverage

Surviving spouse coverage continues for life after the death of the member (retiree or active employee eligible to retire). The coverage is free for six months and then it reverts to single retiree coverage.

Medical Benefit

The same benefit options are available to retirees as active employees. All health plans are self-insured. The plan coordinates with Medicare on a COB basis. The Conservation and Excise Police plans are secondary on prescription drug coverage for Medicare retirees.

For retirees, health, dental, and vision coverage are combined.

Life Insurance

None

CEP Explicit Subsidy

Post-Medicare medical benefits are explicitly subsidized.

Senate Enrolled Act 501

Purpose

Senate Enrolled Act 501 establishes a retirement medical benefits account for elected officers, appointed officers, and employees of the executive, legislative, and judicial branches of state government to pay for participants' medical expenses after retirement.

Effective July 1, 2011 conservation officers of the Department of National Resources and employees of the State Excise Police are not eligible for the Senate Enrolled Act 501 retirement medical benefits account.



Substantive Plan Provisions - Continued

Retiree Contributions

2018 monthly retiree contributions effective on January 1, 2018 as determined by CEP are split by benefit as shown below. The dental and vision costs below are determined based on dental and vision claims and enrollment information for the 23-month period ending May 31, 2017 (excluding July 2016 which was not available) projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018. Contributions are allocated to vision benefit first, dental second, and medical last.

	Single	Member + Spouse	Incremental Spouse Cost
<u>Pre-Medicare</u>			
Medical	\$ 333.54	\$ 630.08	\$ 296.54
Dental	\$ 30.34	\$ 60.68	\$ 30.34
Vision	\$ 5.12	\$ 10.24	\$ 5.12
Total	\$ 369.00	\$ 701.00	\$ 332.00
<u>Post-Medicare</u>			
Medical	\$ 111.92	\$ 164.90	\$ 52.98
Dental	\$ 30.34	\$ 60.68	\$ 30.34
Vision	\$ 5.12	\$ 10.24	\$ 5.12
Total	\$ 147.38	\$ 235.82	\$ 88.44



Actuarial Assumptions and Methods

Measurement Date	June 30, 2017
Actuarial Valuation Date	June 30, 2017 with no adjustments to get to the June 30, 2017 measurement date. Liabilities as of July 1, 2016 are based on an actuarial valuation date of July 1, 2016.
Discount Rate	2.92% as of July 1, 2016 and 3.56% as of June 30, 2017 for accounting disclosure purposes; refer to the Discussion of Discount Rates section for more information on selection of the discount rate. 4.50% for calculating Actuarially Determined Contribution
Inflation Rate	2.25%
Cost Method	Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where: <ul style="list-style-type: none">• service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant’s benefit at retirement; and• annual Service Cost is a constant percentage of the participant’s salary that is assumed to increase according to the Payroll Growth.
Salary Scale	2.25% for general wage inflation plus 0.25% for merit and productivity increases.
Data Assumptions	All employees are assumed to elect medical, dental, and vision coverage at retirement.



Actuarial Assumptions and Methods – Continued

Contribution Funding Policy

The Conservation and Excise Police maintain a separate health plan for its active and retired employees. The plan is self-insured and the Conservation and Excise Police maintain stop-loss reinsurance to protect against excessive claims. The annual cost of the plan is financed on a pay-as-you-go basis from State subsidies and active/retiree contributions. The Conservation and Excise Police also has the ability to manage plan costs by changing the benefit design to less expensive designs. The State contributes the same employer subsidy per active employee as regular State employees to the Conservation and Excise Police health fund. There is no direct State subsidy for retiree health care.

The Conservation and Excise Police active employees are younger and healthier, as a group, than regular State employees which results in lower health care costs per employee when comparing the two groups. Because of the lower active health costs, the State subsidy per employee is sufficient to cover the active health costs and create a surplus which is then used to subsidize the current retiree health care costs.

Starting in FYE June 30, 2012, the Conservation and Excise Police started pre-funding retiree health benefits.

Mortality

Pre and post-retirement mortality rates are based on SS-2012 Total Dataset Mortality Table with blue collar adjustment fully generational using SSA scale

Disability

None

Withdrawal Rate

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health care coverage. Annual withdrawal rates are based on State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers actuarial valuation as of June 30, 2015. Annual rates are as shown below.

YOS	Rates	YOS	Rates
0 – 1	10%	6	5%
2	9%	7	4%
3	8%	8	3%
4	7%	9	2%
5	6%	10+	1%



Actuarial Assumptions and Methods – Continued

Retirement Rate

Annual retirement rates are as shown below.

Age	Rates
45	3%
46 – 49	2%
50	3%
51 – 59	15%
60 – 64	40%
65+	100%

Per Capita Costs

Annual per capita costs are based on claims and enrollment data for the 23-month period ending May 31, 2017 (excluding July 2016 which was not available) projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018. The per capita costs were actuarially increased to a retiree-basis using health index factors and enrollment. These costs are assumed to increase with health care trend rates.

Age	Male	Female
50 – 54	\$ 6,900	\$ 8,300
55 – 59	\$ 9,100	\$ 9,300
60 – 64	\$ 11,700	\$ 11,100
65 – 69	\$ 2,900	\$ 2,900
70 – 74	\$ 3,400	\$ 3,400
75+	\$ 4,000	\$ 4,000

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Annual dental and vision per capita costs are based on claims and enrollment data for the 23-month period ending May 31, 2017 (excluding July 2016 which was not available) projected to 2017/18 plan year and includes projected administrative expenses effective on January 1, 2018. The annual dental and vision per capita costs are \$358 and \$61 respectively and they are assumed to increase with dental and vision trend rates.

Retiree Contributions

Retiree contributions are assumed to increase with health care trend rates.



Actuarial Assumptions and Methods – Continued

Health Care Trend Rates	FYE	Medical / Rx	FYE	Medical / Rx
	2018	9.0%	2023	6.5%
	2019	8.5%	2024	6.0%
	2020	8.0%	2025	5.5%
	2021	7.5%	2026	5.0%
	2022	7.0%	2027+	4.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Dental and vision costs are assumed to increase by 3.0% in the future.

Health Care Coverage Election Rate

Active Employees

100% of active employees with current coverage are assumed to elect coverage at retirement. Active employees with no current coverage are assumed not to elect coverage at retirement.

Inactive Employees

Based on actual data.

Spousal Coverage

85% of male and 25% of female employees are assumed to be married upon retirement. Husbands are assumed to be three years older than wives.

Spousal coverage for current retirees is based on actual data.

Explicit Subsidy

The difference between (a) the Nyhart calculated premium equivalent rates and (b) the retiree contribution approved by CEP for medical benefits only. Below is an example of the monthly explicit subsidies for a retiree age 60 with spousal coverage.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 471.85	\$ 333.57	\$ 138.28
Spouse	\$ 471.85	\$ 296.67	\$ 175.18



Actuarial Assumptions and Methods – Continued

Implicit Subsidy

The difference between (a) the per capita cost and (b) the Nyhart calculated premium equivalent rates. Below is an example of the monthly medical implicit subsidies for a male retiree age 60 and his spouse of the same age.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 975.00	\$ 471.85	\$ 503.15
Spouse	\$ 925.00	\$ 471.85	\$ 453.15

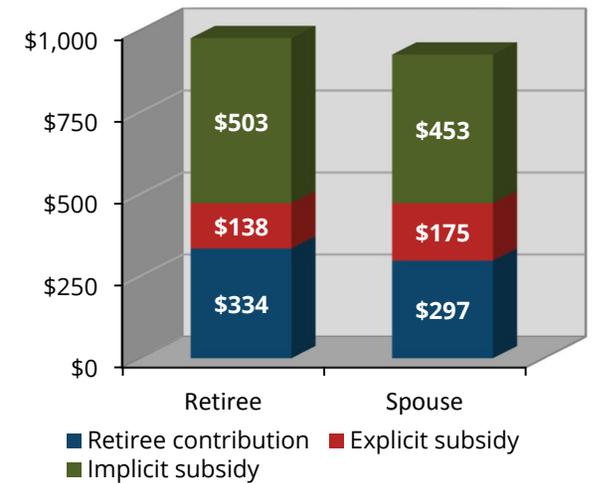
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 74/75 monthly total cost for a male retiree age 60 and his spouse of the same age for medical benefits only.

	Retiree		Spouse	
Retiree contribution	\$	333.57	\$	296.67
Explicit subsidy	\$	138.28	\$	175.18
Implicit subsidy	\$	503.15	\$	453.15
Total monthly cost	\$	975.00	\$	925.00

GASB Subsidy Breakdown



SECTION F – APPENDIX



Appendix A – Comparison of Participant Demographic Information

	<i>As of June 30, 2016</i>				<i>As of June 30, 2017</i>			
	<i>State Personnel</i>	<i>Legislature</i>	<i>ISP</i>	<i>CEP</i>	<i>State Personnel</i>	<i>Legislature</i>	<i>ISP</i>	<i>CEP</i>
Active Participants ²⁴	24,287	118	1,713	256	23,617	112	1,665	262
Retired Participants ²⁵	830	33	1,115	186	725	38	1,120	191
Averages for Active								
Age	45.7	58.0	42.5	39.6	45.7	57.9	42.9	39.4
Service	11.0	10.9	14.2	14.5	11.0	10.0	14.9	14.0
Averages for Inactive								
Age	62.0	71.3	70.3	67.1	62.1	72.3	70.7	67.7

²⁴ Only includes employees who have medical / rx coverage. Refer to Summary of Plan Participants section for an accurate breakdown of active employees with and without medical / rx coverage.

²⁵ The retired enrollment figures above exclude spouses and those who currently have no medical / rx coverage. Legislator retired participants enrollment excludes two participants who have subsidized dental and vision benefits but no medical / rx coverage. ISP retired participants enrollment excludes those who have life insurance benefits only and include beneficiaries. Refer to Summary of Plan Participants section for an accurate breakdown of retirees with and without medical / rx coverage.



Appendix B – Data Reconciliation by Group

	<i>State Personnel</i>	<i>Indiana State Police (ISP)</i>	<i>Conservation and Excise Police (CEP)</i>
Active employees with coverage			
Actives as of June 30, 2016	24,287	1,713	256
Terminated	(3,404)	(89)	(4)
New hires	2,765	78	19
Active employees who retired	(154)	(38)	(7)
Retirees who returned to active employment	2	1	
Other adjustment ²⁶	121		(2)
Actives as of June 30, 2017	23,617	1,665	262
Retirees with coverage			
Retirees as of June 30, 2016	830	1,007	186
Active employees who retired	154	32	7
Retirees who returned to active employment	(2)	(1)	
Retirees who dropped coverage or passed away without beneficiaries	(267)	(27)	(2)
Retirees who passed away with beneficiaries		(73)	
New retirees ²⁷	10	6	
Other adjustment ²⁵		2	
Retirees as of June 30, 2017	725	946	191
Beneficiaries with coverage			
Beneficiaries as of June 30, 2016		108	
Active/retirees who passed away with beneficiaries		73	
Beneficiaries who dropped coverage		(7)	
New beneficiaries			
Beneficiaries as of June 30, 2017		174	

²⁶ This line shows adjustments for participants who have changed health plan enrollment status from June 30, 2016 to June 30, 2017 (i.e. those who did not have coverage before but are currently enrolled, and vice versa).

²⁷ This line shows new retirees who were not found as active employees in June 30, 2014 census data or those who were previously active in a different employee group.



Appendix C – Summary of Medical Benefits

A brief summary of all health plans offered for all entities effective on January 1, 2018 are as shown below. The out-of-pocket maximum includes the deductible, coinsurance, and copayments.

STATE PERSONNEL / LEGISLATURES	CDHP 1	CDHP 2	CDHP Wellness	Traditional PPO
Deductible (Single / Family)	\$2,500 / \$5,000	\$1,500 / \$3,000	\$2,500 / \$5,000	\$750 / \$1,500
Coinsurance	80%	80%	80%	70%
Out-of-Pocket Maximum (Single / Family)	\$4,000 / \$8,000	\$3,000 / \$6,000	\$4,000 / \$8,000	\$3,000 / \$6,000
Co-pay / co-insurances for:				
Office Visit	Subject to ded / co-ins	Subject to ded / co-ins	Subject to ded / co-ins	30%
Emergency Room	Subject to ded / co-ins	Subject to ded / co-ins	Subject to ded / co-ins	30%
Prescription drugs (Retail)				
Generic	\$10	\$10	\$10	\$20
Preferred Brand	20% (\$30 min / \$50 max)	20% (\$30 min / \$50 max)	20% (\$30 min / \$50 max)	30% (\$40 min / \$60 max)
Non-Preferred Brand	40% (\$50 min / \$70 max)	40% (\$50 min / \$70 max)	40% (\$50 min / \$70 max)	50% (\$70 min / \$90 max)
Specialty	40% (\$75 min / \$150 max)	40% (\$75 min / \$150 max)	40% (\$75 min / \$150 max)	50% (\$100 min / \$175 max)
Prescription drugs (Mail Order)				
Generic	\$20	\$20	\$20	\$40
Preferred Brand	20% (\$60 min / \$100 max)	20% (\$60 min / \$100 max)	20% (\$60 min / \$100 max)	20% (\$80 min / \$120 max)
Non-Preferred Brand	40% (\$100 min / \$140 max)	40% (\$100 min / \$140 max)	40% (\$100 min / \$140 max)	40% (\$140 min / \$180 max)

	ISP Retirees	CEP Retirees
Deductible (Single / Family)	\$750 / \$1,500	\$750 / \$1,500
Coinsurance	80%	80%
Out-of-Pocket Maximum (Single / Family)	\$4,000 / \$8,000	\$2,550 / \$5,100
Co-pay / co-insurances for:		
Office Visit	20%	20%
Emergency Room	20%	20%
Prescription Drugs:		
Deductible	\$200	\$150
Retail (Generic / Pref / Non-Pref)	\$25 / \$40 / 50%	\$15 / \$40 / \$60
Mail Order (Generic / Pref / Non-Pref)	\$30 / \$80 / 50%	\$30 / \$80 / \$20

SECTION G – GLOSSARY



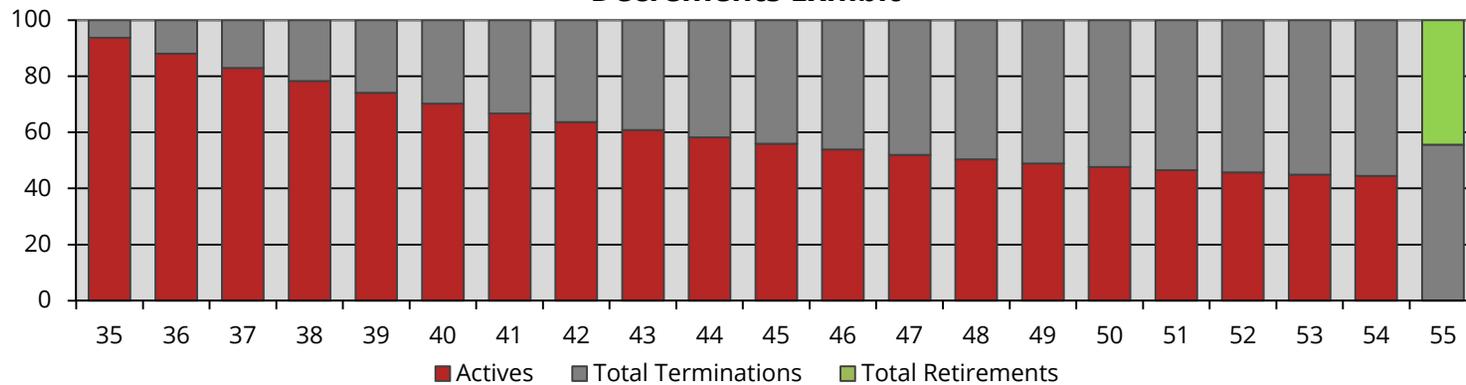
Decrements Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.430 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
35	100.000	6.276	0.000	6.276
36	93.724	5.677	0.000	5.677
37	88.047	5.136	0.000	5.136
38	82.911	4.648	0.000	4.648
39	78.262	4.209	0.000	4.209
40	74.053	3.814	0.000	3.814
41	70.239	3.456	0.000	3.456
42	66.783	3.131	0.000	3.131
43	63.652	2.835	0.000	2.835
44	60.817	2.564	0.000	2.564
45	58.253	2.316	0.000	2.316

Age	# Remaining Employees	# of Terminations per Year*	# of Retirements per Year*	Total Decrements
46	55.938	2.085	0.000	2.085
47	53.853	1.866	0.000	1.866
48	51.987	1.656	0.000	1.656
49	50.331	1.452	0.000	1.452
50	48.880	1.253	0.000	1.253
51	47.627	1.060	0.000	1.060
52	46.567	0.877	0.000	0.877
53	45.690	0.707	0.000	0.707
54	44.983	0.553	0.000	0.553
55	44.430	0.000	44.430	44.430

Decrements Exhibit



* The above rates are illustrative rates and are not used in our GASB calculations.



Retirement Rates Exhibit

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

Age	Active Employees BOY	Annual Retirement Rates*	# Retirements per Year	Active Employees EOY
55	100.000	5.0%	5.000	95.000
56	95.000	5.0%	4.750	90.250
57	90.250	5.0%	4.513	85.738
58	85.738	5.0%	4.287	81.451
59	81.451	5.0%	4.073	77.378
60	77.378	5.0%	3.869	73.509
61	73.509	5.0%	3.675	69.834
62	69.834	30.0%	20.950	48.884
63	48.884	15.0%	7.333	41.551
64	41.551	15.0%	6.233	35.318
65	35.318	100.0%	35.318	0.000



* The above rates are illustrative rates and are not used in our GASB calculations.



Definitions

GASB 75 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
2. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of Future Benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Service Cost and a Total OPEB Liability.
3. **Actuarially Determined Contribution** - A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in accordance with the parameters and in conformity with Actuarial Standards of Practice.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
 - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
 - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Deferred Outflow / (Inflow) of Resources** – represents the following items that have not been recognized in the OPEB Expense:
 - a. Differences between expected and actual experience of the OPEB plan
 - b. Changes in assumptions
 - c. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)
6. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
7. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the Total OPEB Liability.



Definitions – Continued

8. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
9. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
10. **OPEB** – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
11. **OPEB Expense** – Changes in the Net OPEB Liability in the current reporting period, which includes Service Cost, interest cost, changes of benefit terms, expected earnings on OPEB Plan investments, reduction of active employees' contributions, OPEB plan administrative expenses, and current period recognition of Deferred Outflows / (Inflows) of Resources.
12. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
13. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
14. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
15. **Real Rate of Return** – the rate of return on an investment after adjustment to eliminate inflation.



Definitions – Continued

16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Service Cost** – The portion of the Actuarial Present Value of projected benefit payments that are attributed to a valuation year by the Actuarial Cost Method.
18. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.
19. **Total OPEB Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Benefits which is attributed to past periods of employee service (or not provided for by the future Service Costs).